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ABSTRACT

Presented is an annotated bibliography with approximately 250 entries relating to the severely and profoundly retarded. Citations are listed alphabetically by author under the following categories: assessments, measurements, evaluations; associations; attending behavior; behavior modification; books; classical conditioning; cognitive development; education; environmental design; inappropriate behaviors; institutionalization/community placement; language (expressive, general, imitation learning/receptive, and instruction following/receptive); miscellaneous (definition, prevalence, climate, psychotherapy); motor performance; music; parents; physical therapy/sensory stimulation; play time/activity; programs/program assessment; reference material (A-Z); research; self-help skills (dressing, feeding, general, teeth-brushing, and toileting); self-injurious behavior; socialization (A-Z); stereotypic behavior; vision (assessment, discrimination); vocational education/habilitation; vomiting. Information for each entry usually includes author, title, source, publication date, page number, and a brief summary. (SBH)

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An Annotated Bibliography on the Severely and Profoundly Mentally Retarded

Compiled by

Michael Cass, MA

and

Jeffrey Schilit, Ph.D.

EC091335

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*Abstracts of the articles cited are in most cases those appearing with the article.

ASSESSMENTS, MEASUREMENTS, EVALUATIONS

Allen, R. M., Alker, L. N., Levine, M. N. and Loettler, F. J. Adaptive behavioral assessment as the second tool in the criterion for mental retardation. Research and The Retarded, 1975, 2(3), 1-6.

> "This paper focuses on the second but equally important criterion for the evaluation of the mentally retarded condition, viz., social adaptability. Furthermore going beyond assessment, the authords present a practical model for the specific remedial application of the personal-social findings with the Adaptive Behavior Checklist."

Balthazar, E. E. and Phillips, J. L. Social adjustment in more severely retarded institutionalized individuals: The sum of adjusted behavior. American Journal of Mental Deficiency, 1976, 80, 454-458.

> "A measure, toward the sum of Adjusted Behavior, was employed to count the types of social behavior severely and profoundly institutionalized retardates exhibit. Data pertaining to the relationship between the 'Sum of Adjusted Behavior' and CA to MA, age of institutionalization, gender, medical diagnosis, medication, and social behavior are discussed."

Congdon, D. M. The adaptive behavior scales modified for the profoundly retarded. Mental Retardation, 1973, 11(1), 20-21.

> "Describes alterations made to produce a profound scale and a maladaptive scale. High competency levels of many items in the 1st half were dropped off and several entire items were deleted. All 'of them' items were reworded to 'check as appropriate'. The latter portion was similarly modified but no items dropped. Tests of the modified scales are briefly discussed."

Edmonson, B. and Wish, J. Sex knowledge and attitudes of moderately retarded males. American Journal of Mental Deficiency, 1975, 80, 172-179.

> "Eighteen moderately retarded men (IQ range 30-55) were questioned to determine their understanding of pictures of homosexual embrace, masturbation, dating, marriage, intercourse, pregnancy, childbirth, drunkenness, and their knowledge of anatomical terminology." Results indicated: 1) In some cases the number of correct responses was as low as 10%, 2) the median for correct responses was 28%, and 3) only one individual correctly answered more than 50% of the questions. Correct responses were significantly correlated with WAIS Full Scale and Verbal IQs and the Adaptive Scale Domains of Socialization, Language, and Responsibility.

Friedlander, B. Z., Silva, D. A. and Knight, M. S. Selective responses to auditory and auditory-vibritory stimuli by severely retarded deaf-blind children. Journal of Auditory Research, 1973, 13(2), 105-111.

> "Evaluated responsiveness to auditory stimulation in 15 severely retarded deaf-blind preschool children by measuring their operant choice between no sound at all and musical selections at 80db SPL. A vibratory assist was employed for those Ss whose responses were inconclusive. This assistance proved to be crucial in helping some

of the Ss develop consistent listening response competence. Results obtained from testing with and without hearing aids led to speculations concerning the value of aids with some of the children."

Hamilton, T. L. and Budott, M. Learning potential among the moderately and severely mentally retarded. Mental Retardation, 1974, 12(4), 33-36.

"Investigated the feasibility of M. Budott and M. Friedman's learning potential paradigm as an assessment approach with moderately and severely retarded persons. Forty 12-22 year old institutionalized retardates were tested 3 times: initially, after 1 week, and after 1 month with a match-to-sample block design test. Twenty were randomly assigned to a 30 minute training session which occurred on the day prior to the 1st retest. Pretrained scores were positively correlated with Peabody Picture Vocabulary Test IQ. Improvement following training was not related to IQ, but was significantly related to 2 validity measures."

Kahn, J. V. Utility of the Uzgiris and Hunt Scales of gensovimotor development with severely and profoundly retarded children. American Journal of Mental Deficiency, 1976, 80, 663-665.

"Reliability and validity of Uzgiris and Hunt scales of sensovimotor development were assessed with 63 severely and profoundly retarded children. It was found that: 1) scales were reliable and 2) ordinal suggested that scales could be used both reliably and validly with severely and profoundly retarded children."

Pollack, S. N., Pollack, D. and Tuttli, C. S. Creativity in the severely retarded. Journal of Creative Behavior, 1973, 7(1), 67-72.

"Administered two non-verbal tests in the Torrance Tests of Creative Thinking, Form B (Incomplete Figures and Circles Tests) to eight severely retarded individuals and to eight moderately retarded individuals. They found that: 1) moderately retarded demonstrated greater creative ability than the severely retarded on non-verbal creativity tests, and 2) the fluency trait was a better base measure of creativity than flexibility for both IQ groups.

Silverstein, A. B., Brownlee, L., Hubbell, M. and McLain, R. E. Comparison of two sets of Piagetian Scales with severely and profoundly retarded children. American Journal of Mental Deficiency, 1975, 80, 292-297.

"Administered Corvian and Escalona's Scales for Object Permanence and Spatial Relationships and Uzgiris and Hunt Scales to 64 severely and profoundly retarded children. When compared, both sets of scales found that: 1) scoring reliability was very high, 2) total scores did not vary as a function of subject characteristics or testing conditions, 3) differences in item difficulty was not significantly correlated with those reported for non-retarded infants, and 4) it took less time to administer the Uzgiris and Hunt Scales but Object Permanence showed a ceiling effect and the internal consistency of the Spatial Relationship was low."

Tweedie, D. Method of audiological screening with the severe to profoundly mentally retarded, Training School Bulletin, 1972, 68, 227-230.

"In this study 45 mentally retarded individuals were screened for hearing acuity by behavioral responses to auditory environmental stimuli. The use of the described procedure proved to be a useful screening method with this population."

Wohlhueter, M. J. and Sindberg, R. M. Longitudinal development of object permanence in mentally retarded children: An exploratory study. American Journal of Mental Deficiency, 1975, 79, 513-518.

"Monthly testing on a series of Piaget object tasks was carried out on 1 to 6 year old profoundly, severely and moderately retarded children. Forty nine subjects were followed for 1 to 1.5 years or to criterion; 18 subjects were followed for shorter periods. Three general patterns occurred among the non-criterion subjects with approximately equal frequency: a) little or no change, b) marked variability, and c) relatively steady upward change from month to month."

ASSOCIATIONS

Harmon, E. and Having, N. G. Meet AAESPH: The new kid on the block. Education and Training of the Mentally Retarded, 1976, 11, 101-105.

"Describes the development of the American Association for the Education of the Severely/Profoundly Handicapped (AAESPH), its goals, its focus on communication, and its future.

Launay, U. and Zucman, E. (Experience of CESAP: From medoco-social action to research and clinical considerations.) Revue de Neuropsychiatrie Infantile et d'hygience Mentale de l'Enfance, 1971, 19,(3-4), 109-113.

"Describes the committee for the study and care of the severely retarded (CESAP) which was created in 1966 to: a) organize services for the specialized care of Parisian children with IQ's of less than 50, and b) conduct information, research and teaching activities."

ATTENDING BEHAVIOR

Nathanson, D. E. Attending behavior of severely retarded teenage pupils as a function of selected stimuli used in television broadcasting. (Doctoral dissertation, University of Minnesota, 1973). Dissertation Abstracts International, 1973, 34, 3191A. (University Microfilms No. 73-79, 422)

Redd, W. H. Attention span and generalization of task-related stimulus control: Effects of reinforcement contingencies. Journal of Experimental Child Psychology, 1972, 13, 527-539.

"During training with an adult, two retarded children were presented three tasks, each associated with a different training regime (extinction, contingent or non-contingent reinforcement). The contingent task required discriminative properties, whereas other tasks did not. Control was maintained on familiar and unfamiliar settings and with novel adults. When tasks were presented in combination, subjects manipulated the contingent task. During choice probes the three tasks were presented simultaneously; the subjects chose the contingent and non-contingent tasks almost equally and never chose the extinction tasks. Results were replicated when reinforcement

contingencies assigned to tasks were changed."

Wright, J. E. Generalization from four methods for the training of attending with mental retardates (Doctoral dissertation, Fuller Theological Seminary, 1970). Dissertation Abstracts International, 1972, 32, 6665B-6666B. (University Microfilms No. 72-15, 873)

BEHAVIOR MODIFICATION

Bateman, S. Application of Premack's generalization on reinforcement to modify occupational behavior in two severely retarded individuals. American Journal of Mental Deficiency, 1975, 79, 604-610.

> "Successfully employed Premack's principle in an rehabilitation setting in order to increase the time two severely retarded adults spend working on less preferred activities."

Foster, S. E. Use of behavior modification techniques in behavior training of severely and profoundly retarded children. Slow Learning Child, 1974, 21(1), 24-37.

> "Discusses the techniques used by researchers to modify behavior problems of the severely and profoundly retarded. Unfortunately, it is punishment which seems to have had some measure of success when severe self-injurious behavior has been involved. Mild and moderate punishment has been found ineffectual if there were no alternate responses which would produce reinforcement. Severe punishment suppressed a response totally and for a long time, inhibited other responses, and increased frequency of response if it produced reinforcement. Aggressive behavior, including self-inflicted wounds, is dealt with by technological innovations, environmental alterations; and other means. Training methods sometimes used are said to be either too lenient or too cruel, but no one workable system has yet been established."

Gladstone, B. W. The development and generalization of behavior modification techniques by high school students working with retarded children (Doctoral dissertation, University of Kansas, 1973). Dissertation Abstracts International, 1974, 34, 6237B-6238B. (University Microfilms No. 74-12, 560)

Hamilton, J. L. Application of the learning potential paradigm to severely mentally retarded adolescents (Doctoral dissertation, University of Missouri, 1973). Dissertation Abstracts International, 1973, 34, 1152A-1153A. (University Microfilms No. 73-21, 426)

Kaprowy, E. A. Primary reinforcement, a token system, and attention criteria and feedback procedures with profound retardates in a verbal training classroom (Doctoral dissertation, University of Manitoba, 1975). Dissertation Abstracts International, 1975, 36, 2498B. (Order Microfiche copy from National Library of Canada at Ottawa)

Karan, O. C. The effect of an experimenter controlled fixed ratio schedule of reinforcement on the subsequent self-reinforced behaviors of mentally retarded adolescents and adults (Doctoral dissertation, University of Wisconsin, 1974). Dissertation Abstracts International, 1974, 35, 3019B-3020B. (University Microfilms No. 74-19, 559)

King, L. W. and Turner, R. D. Teaching a profoundly retarded adult at home by non-professionals. Journal of Behavior Therapy and Experimental Psychiatry, 1975, 6(2), 117-121.

"Three non-professional trained and paid undergraduates were used in a behavior modification program for a profoundly retarded 22 year old male whose parents, though they had reservations about behavior modification, agreed to it. The 4 target behaviors were dressing, undressing, toileting and cooperative play. Measures taken on these behaviors showed improvements during the course of the training and on tests conducted during a 1 year follow-up. Results are discussed in terms of the use and availability of undergraduates in such programs, the analysis of complex skills into component behaviors, and the positive reaction of the parents to the program."

Knapczyk, D. R. Task analytic assessment of severe learning problems. Education and Training of the Mentally Retarded, 1975, 10, 74-77.

"Explains how task analytic assessment can be used by classroom teachers and other community service agents to assess the level of functioning of severely retarded individuals."

Landesman-Dwyer, S. A description and modification of the behavior of nonambulatory, profoundly mentally retarded children (Doctoral dissertation, University of Washington, 1974). Dissertation Abstracts International, 1975, 36, 3092B-3093B. (University Microfilm No. 75-28, 380)

Libb, J. W. Stimuli previously associated with reinforcement: Reinforcing or frustrating to the mentally retarded? Journal of Experimental Child Psychology, 1972, 14, 1-10.

"Behavioral effects of stimuli paired with reinforcement were investigated in a complex FI chain schedule with six mentally retarded Ss. The chain schedule permitted the assessment of increments in responding in the presence of an S^D for briefly presented stimuli previously paired with candy reinforcement as well as changes in responding subsequent to stimulus presentation. Consistent response rate increases failed to emerge in the presence of the S^D associated with stimuli paired with reinforcement. Responding for all Ss increased immediately subsequent to briefly presented paired stimuli. Results were consistent with an increased emotionality or frustration interpretation."

McCorry, J. H. Operant conditioning of mental retardates (Doctoral dissertation, Colorado State University, 1971). Dissertation Abstracts International, 1972, 32, 6653B-6654B. (University Microfilms No. 72-16, 116)

McCreary, R. D. An investigation of time-out procedures with the severely and profoundly retarded (Doctoral dissertation, University of Houston, 1974). Dissertation Abstracts International, 1975, 35, 4187B. (University Microfilms No. 75-5047)

McNamee, S. and Peterson, J. Observed versus potential behavior in the follow-up results in a typical behavior modification program. Catalog of Selected Documents in Psychology, 1974 (Fall), 4, 131.

Mackay, C. K. The transfer of specific and non-specific learning by severely subnormal adults. British Journal of Psychology, 1973, 64, 405-412.

"A modification of Bryant's study of the transfer of positive and negative learning in severely subnormal subjects was attempted. A third condition, where neither positive nor negative learning could be transferred, was added. Fifty-two adult non-institutionalized SSN trainees demonstrated transfer in all three conditions. Transfer was greatest in the positive learning condition, intermediate in the negative learning condition and least in the non-specific learning condition. Two interpretations offered are: 1) a significant degree of transfer which cannot be attributed to specific approach-avoidance learnings, occurs with naive subjects, and 2) such general transfer effects are inevitably confounded with specific transfer effects in the traditional transfer experiment design."

Merishima, A. Flexibility in severely and moderately mentally retarded children: The transfer of positive and negative learning (Doctoral dissertation, University of Minnesota, 1973). Dissertation Abstracts International, 1974, 34, 7052A. (University Microfilms No. 74-10, 551)

Presnall, D. M. Development of a task analytic worksampling and training technique for use with moderately and severely retarded adults (Doctoral dissertation, Ohio State University, 1975). Dissertation Abstracts International, 1975, 36, 3109B. (University Microfilm No. 75-26, 643)

Ramirez, L. and Ribes, E. (Effects of punishment on multiple behaviors in a human subject.) Revista Latinoamericana de Psicologia, 1974, 6(2), 161-178.

"Studied punishment effects in a severely retarded girl under a multiple-concurrent design, using 6 different responses in 2 successive stimulus situations. Differential reinforcement of other behavior and fixed-internal reinforcement schedules were also used to evaluate interaction with punishment. Results show that many of the assumptions about punishment are unjustified and that its effects are complex and dependent on multiple variables."

Rosen, M., Zistein, L. and Itardy, M. Symposium on the treatment of behavioral problems: III. The clinical application of behavior modification techniques: Three case studies. British Journal of Mental Subnormality, 1972, 28(35), 81-88.

"Describes the behavior modification programs used in educating a severely retarded 5 year old boy."

Rusch, F. R. and Close, D. W. Overcorrection: A procedural evaluation. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(5), 32-45.

"This paper reviews the components of overcorrection, the rationale for its use, the two types of overcorrection training reported, the levels of instructional assistance, and some common misinterpretations. And it suggests extensions to the vocational and social development of the severely/profoundly handicapped."

Turnure, T. E. and Rynders, J. E. Effectiveness of manual guidance, modeling and trial and error learning procedures on the acquisition of new behaviors. Merrill-Palmer Quarterly, 1973, 19, 49-65.

"Attempted to: 1) determine if manual guidance would be feasible with institutionalized mentally retarded children, and 2) compare its effectiveness with other standard learning procedures, i.e., modeling and trial and error. Two studies were conducted. The first study focused on the manipulation of a simple response, that is, reaching for a stimulus in a two-choice discrimination task; the second study involved a more complex response, grasping and using a stick as a tool in acquiring an object beyond normal reach. Results appear to demonstrate clearly that manual guidance and initation learning techniques are effective means of teaching some kinds of behaviors to mentally retarded individuals."

Uno, T., Sertel, A. L. and Cleland, C. C. Operant preferences for male and female voices by profoundly retarded males. Psycho Reports, 1975, 36(3), 891-894.

"Male and female voices were used to determine preference for voice among profoundly retarded adult males. Ss were first exposed to a situation where button pressing resulted in either a 250- or a 2000-H2 tone and then to a situation in which a male and female voice was associated with each button. Statistically significant differential preference was not exhibited to either type of stimulus although the female voice did appear to be more effective."

Wallace, R. F. and Mulder, D. W. Fixed ratio responding in human subjects. Bulletin of the Psychomic Society, 1973, 1(5-B), 359-362.

"Observed 3 severely retarded adult inpatients when they were allowed to press a button for candy on various FR schedules of reinforcement. Results demonstrate that the size of the required fixed rationwas directly related to the length of the postreinforcement pause. However, fixed-ratio size had no effect on response rate when responding resumed following the postreinforcement pause."

Wilson, T. F. Application of operant conditioning techniques to institutionalized severely and profoundly retarded adults (Doctoral dissertation, University of North Carolina at Chapel Hill, 1972). Dissertation Abstracts International, 1973, 34, 298B. (University Microfilms No. 73-16, 534)

BOOKS

Adams, J. L. An education curriculum for the moderately, severely and profoundly mentally handicapped pupil. Springfield, ILL: Charles C. Thomas, 1975.

Alpern, G. D. and Boll, T. J. (Eds.) Education and care of moderately and severely retarded children: With a curriculum and activities guide. Seattle, Wash.: Special Child Publications, 1971.

Braginsky, D. D. and Braginsky, B. R. Hansels and Gretels: Studies of children in institutions. New York: Holt, Rinehart, and Winston, 1971.

Bradley, B. H., Hundziak, M. and Patterson, R. M. Teaching moderately and severely retarded children: A diagnostic approach. Springfield, Ill.: Charles C. Thomas, 1971.

D'Amelio, D. Severely retarded children: Wider horizons. Columbus, Ohio: Charles E. Merrill, 1971.

Danields, L. K. (Ed.) Vocational rehabilitation of the mentally retarded: A book of readings. Springfield, Ill.: Charles C. Thomas, 1974.

Donlon, E. T. and Burton, L. F. Severely and profoundly handicapped. New York: Grune and Stratton, 1976.

Evans, S. and Denney, M. R. Reading achievement program for the moderately and severely retarded. Danville, Ill.: Interstate, 1974.

Faber, B. Effects of a severely mentally retarded child on the family. In E. P. Trapp and P. Itimelstein (Eds.) Recordings on the exceptional children: Research and theory (2nd Ed.). New York: Appleton-Century-Crofts, 1972.

Foxx, R. M. and Azrin, N. H. Toilet training the retarded: A rapid program for day and nighttime independent toileting. Champaign, Ill.: Research Press, 1973.

Haring, N. G. and Brown, L. J. (Eds.). Teaching the severely handicapped. New York: Grune and Stratton, 1976.

Jenkins, W. M., Anderson, R. M. and Dietrich, W. L. (Eds.). Rehabilitation of the severely disabled. Dubuque, Iowa: Kendall Hunt, 1976.

Kent, L. R. Language acquisition program for the severely retarded. Champaign, Ill.: Research Press, 1974.

Larson, L. A. and Bricker, W. A. A manual for parents and teachers of severely and moderately retarded children. Imrid Papers and Reports, Volume 5, Number 22. Nashville, Tenn.: Imrid, 1968.

Menolascino, F. J. and Pearson, P. H. (Eds.). Beyond the limits: Innovations in services for the severely and profoundly retarded (2nd ed.). Seattle, Wash.: Special Child Publications, 1974.

Myers, D. G., Sinco, M. E. and Stalma, E. S. The Right to Education Child: A curriculum for the severely and profoundly mentally retarded. Springfield, Ill.: Charles C. Thomas, 1973.

Penny, R. Substitute parents: Training the profoundly retarded patient for return to the community. Springfield, Ill.: Charles C. Thomas, 1967.

Stevens, M. Observing children who are severely subnormal. London: Edward Arnold, 1968.

Stevens, M. The educational needs of severely subnormal children. Baltimore, Md.: Williams and Witkins, 1973.

Tawney, T. W. and Schedgick, R. Operant technology applied to the development of teaching environments for children with severe developmental retardation. Lexington, Kentucky: University of Kentucky, 1974.

Thornley, M. Every child can learn ... something! For parents and teachers of severely retarded children. Seattle, Washington: Special Child Publications, 1973.

Wills, R. H. The institutionalized severely retarded: A study of activity and interaction. Springfield, Ill.: Charles C. Thomas, 1973.

Witsen, B. V. Teaching strategies for children with severe language and behavioral disorders. New York: Teachers College Press, 1976.

Zaetz, J. L. Occupational activities training manual for severely retarded adults. Springfield, Ill.: Charles C. Thomas, 1969.

CLASSICAL CONDITIONING

Ross, S. M. Trace and delay classical eyelid conditioning in severely and profoundly retarded subjects as a function of interstimulus interval. American Journal of Mental Deficiency, 1972, 77, 39-45.

"Trace and delay classical eyelid conditioning were compared in severely and profoundly retarded young adults at 5 interstimulus (ISTs) from 350 to 1400 MSEC. The trace CS had a duration of 50 MSEC and the delay CS terminated with the offset of the US. Trace and delay CSs were equally effective at 350 MSEC ISI, but at longer ISIS delay conditioning was superior to trace conditioning. Data previously collected using the same CS and ISI conditions with nonretarded subjects showed no trace-delay difference at any ISI tested. Comparisons between present and past data indicated a trace conditioning deficit for the retarded subjects at ISIs of 500 MSEC or more. Following conditioning some subjects were shifted from trace to delay CS conditions and vise versa. Results indicated that the trace CS was an effective stimulus."

Ross, S. M. and Ross, L. E. Stimulus input recruitment and stimulus trace decay factors in the trace conditioning deficit of severely retarded young adults. American Journal of Mental Deficiency, 1975, 80, 109-113.

"Employed trace and delay classical conditioning procedures to evaluate the effects of conditioned stimulus input recruitment and trace decay processes on the trace conditioning deficit of severely and profundly retarded subjects. Found that subjects conditioned through trace procedures responded at a significantly lower level than subjects conditioned through delay procedures. Suggest that stimulus trace decay as opposed to input recruitment accounts for poor trace conditioning performances.

COGNITIVE DEVELOPMENT

Mackay, C. K. Ikonic imagery on the severely subnormal. British Journal of Psychology, 1972, 63(4), 597-603.

"Studied 23, 17-52 year old severely subnormal (SSN) adults for their ability to reproduce and transpose matrices. SS could

transpose the matrices at an MA equivalent to the CA at which children normally do. Ability to reproduce the same matrices was not in evidence prior to the ability to transpose them, as in normal children. It is suggested that cognitive development in SSN is qualitatively different from that of normal children."

Moretti, G. and Saccomani, L. (Cognitive styles and structures in the normal and the retarded child.) Revue de Neuropsychiatrie Infantile et d'Hygiene Mentale de l'Entance, 1973, 21(1-2), 23-32.

"Presents results of a study of differences in cognitive styles between normal and mentally deficient 9-14 year old children. Two groups of institutionalized SS, microencephalopithric and severely retarded were examined in depth with a wide variety of instruments. It was found that the Ss performed better than could be explained by neuropsychological operations according to genetic theory. There was also far more heterogeneity of cognitive styles than among normals, with no reliance on language. It is concluded that re-education should concentrate on the individual and his culture rather than trying to reestablish normal development."

Pechucek, T. F. Self-recognition in profoundly retarded males. Bulletin of the Psychonomic Society, 1973, 1(5-A), 328-330.

"Replicated G. G. Gullop's study of self-recognition in Experiment I with 26 profoundly retarded, ambulatory male inpatients. Experiment II employed a criterion task, suggested by the psychoanolytic conception of primary narcissism, using an additional 20 Ss. Results of both studies indicate no unequivocal support that the profoundly retarded can recognize self and they appear less capable than chimpanzees or normal 7 month old human infants. Failure to install self-recognition subsequent to mirror training is discussed and suggections for further research was offered."

Woodward, M. W. and Hunt, M. R. Exploratory studies of early cognitive development. British Journal of Educational Psychology, 1972, 42(3), 248-259.

"Studied developments in cognitive processes in the early preschool years by observing the actions that young children perform upon objects, while relating them by a special relation or attribute. Matchings tasks and material for spontaneous handling were given to 23 severely subnormal children and to 31, 19-42 month old. It is suggested that one aspect of early cognitive development is increasing selectively in sequences of matching actions."

EDUCATION

Bailey, C. Curriculum guidelines for teaching profound and severe retarded subjects (IQ under 40): Including those with physical handicaps. American Association for the Education of Severely and Profoundly Handicapped Review, 1975, 1(1), 1-17.

"Guidelines are presented on the following topics: 1) aims, 2) objectives, 3) awareness training, 4) motor training for the cerebral palsied, 5) stages of walking, 6) use of behavior modification, 7) ocular motor training, 8) rhythm therapy, 9) swimming training, and 10) swimming for multiply involved physically handicapped.

Barrett, B. H. and McCormack, J. E. Varied-teacher tutorials: A tactic for generating credible skills in severely retarded people. Mental Retardation, 1973, 11(6), 14-19.

"Describes the use of varied teacher tutorial programs for teaching verbal and non-verbal skills to severely retarded children."

Bradley, T. B. Perceived responsibilities of home and school for the education of severely mentally retarded children (Doctoral dissertation, Pennsylvania State University, 1974). Dissertation Abstracts International, 1975, 36, 1429A-1430A. (University Microfilms No. 75-19, 732)

Davis, W. E. Responsibilities of the educator in programming for the severely and profoundly retarded. Training School Bulletin, 1972, 68, 217-220.

"With the trend toward an increasing percentage of severely and profoundly retarded individuals in residential institutions for the mentally retarded, the role of the educator in regard to programming, for these residents needs examination. This editorial attempts to consider some of the problems involved in this area, their possible causes, and recommendations for correction."

Finch, L. E. A curriculum rationale for severely etarded, multihandicapped children (Doctoral dissertation, United States International University, 1974). Dissertation Abstracts International, 1974, 35, 1527A-1528A. (University Microfilms No. 74-20, 559)

Herbert, B. R. The active response in-service training method as a model for use with teachers and aides in public school programs for moderate to severely retarded students (Doctoral dissertation, Michigan State University, 1975). Dissertation Abstracts International, 1976, 36, 5993A. (University Microfilms No. 76-5568)

Luckey, R. E. and Addison, M. R. Profoundly retarded: A new challenge for public education. Education and Training of the Mentally Retarded, 1974, 9, 123-130.

"This article is intended to acquaint teachers and educators with the training methodology used over the last decade in residential and other non-school settings with profoundly retarded persons. Problems unique to the profoundly retarded and suggested areas for program emphasis are presented to provide a frame of reference for future curriculum development."

Reynolds, A. R. Guideposts to functional ability: A curriculum for the moderately and severely retarded. Australian Journal of Mental Retardation, 1973, 2(8), 232-235.

"Notes that education of mentally retarded children has moved progressively from health care and training orientation to an educational enterprise. Feels have ended up with a watered down curriculum for these individuals. So developed a curriculum with 5 levels of teacher planning (level of philosophy, curriculum, syllabus, work program and lesson plans)."

Risler, W. P. and Mattord, J. P. Public school education for the severely mentally retarded. Viewpoints, 1973, 49, 13-24.

"Presents the rationale for providing services for the severely and profoundly mentally retarded school age child. Recent research on the education of the trainable mentally retarded and the educable mentally retarded is reviewed. It is suggested that the public school can become more democratic in its organization and in its integration of the retarded when a broader range of the retarded is included."

Ryan, E. F. A comparison of the perceptions of the role of teacher aides in special education classes for trainable and severely/profoundly mentally retarded children (Doctoral dissertation, Ball State University, 1975). Dissertation Abstracts International, 1976, 37, 225A-226A. (University Microfilms No. 76-16, 476)

Sailor, W. The TARC system: Instructional objectives for the severely handicapped. American Association for the Education of Severely and Profoundly Handicapped Review, 1975, 1(2), 1-13.

"A system (TARC) was presented which would enable educators of the severely and profoundly retarded to develop a curriculum from instructional objectives based upon a behavioral assessment technique. The system consists of the following stages: 1) TARC Assessment Inventory (to assess self-help, motor, communication and social skills), 2) TARC Profile (gives a graphic picture of individual strengths and weakness), 3) TARC Instructional Objectives (rank orders skills, skills with highest rank are priority items in terms of ed. programming), and 4) TARC Curriculum Selection (makes available a listing of all known available canned programs)."

Sidman, M. and Cresson, O. Jr. Reading and crossmodal transfer of stimulus equivalences in severe retardation. American Journal of Mental Deficiency, 1973, 77, 515-523.

"Two severely retarded Down's Syndrome boys were first taught to match printed words to each other and to match dictated words to their corresponding pictures, but were still incapable of matching the printed words to their pictures or of reading the printed words orally. They were next taught to match the dictated to the printed words and were then able to read the words orally and with comprehension. The learned equivalences of dictated words to pictures and to printed words transferred to the purely visual equivalence of printed words to pictures. The success of the mediated-transfer paradogm suggests that inability to achieve crossmodal transfer of stimulus equivalences is not necessarily the cause of reading deficiency in severe retardation and provides a technique for introducing reading to severely retarded children."

Smeets, P. M. and Mantvedint, D. C. Skill centers: A model program for young severely retarded children. Education and Training of the Mentally Retarded, 1973, 8, 124-127.

"States as a premise the need for innovation in special education. Suggestions offered include use of epidemiologic as well as

psychometric models of retardation, and the value of basic studies of the ecology of early mental growth. Original data are presented on retarded mental development, and two conceptual schemas are offered, the first for the integration of research, service and planning. the second for the development of instructional significance in developmental data."

Smith, J. O. and Arkans, J. R. Now more than ever: A case for the special class. Exceptional Children, 1974, 40, 497-502.

"Argues for the need for special classes for severely and profoundly retarded children. The limitations of existing regular classes and the creation of resource rooms as substitutes for special education programs are discussed, and the need for trained personnel and lifelong planning for these children in emphasized."

Soule, D. Teacher bias effects with severely retarded children. American Journal of Mental Deficiency, 1972, 77, 208-211.

"This study was designed to examine the effect of experimentally induced teacher bias, or expectancy, on the subsequent behavior of institutionalized severely retarded children when the bias effects were a result of optimistic psychological reports to cottage parents. No effects of teacher bias were found."

Soule, D. C. Expectancy to progress in institutionalized retarded children (Doctoral dissertation, University of North Carolina at Chapel Hill, 1971). Dissertation Abstracts International, 1972, 32, 5077A. (University Microfilms No. 72-10, 687)

Stainback, S., Stainback, W. and Maurer, S. Training teachers for the severely and profoundly handicapped: A new frontier. Exceptional Children, 1976, 42, 203-210.

"Authors suggest that some erotical areas in which future teachers of severely and profoundly retarded children must have a thorough knowledge of are: 1) diagnostic evaluation, 2) curriculum, 3) methodology, 4) interdisciplinary team work, 5) field work, 6) parent training, and 7) prosthetic aids and that it is the responsibility of universities to provide such knowledge in order to prepare competent teachers."

Stainback, S and Stainback, W. Teaching the profoundly handicapped in the public school setting: Some considerations. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(3), 1-17.

"This article examined some of the primary instructional methods needed to effectively enhance the growth and development of the profoundly handicapped. Primary methods discussed included: 1) the relaxation of the child before initiating training, 2) positioning of the child, 3) active involvement of the child, and 4) language stimulation."

Swartz, F. Effects of prompting, praise and tokens on the development of counting behavior in a severely retarded boy. SALT: School Applications of Learning Theory, 1974, 7, 25-30.

"Studied use of reinforcement to improve counting behavior of a male retardate 19 years old. Thirty sessions of 30 minutes each were conducted for pointing and counting from 1 through 5. Phases of the experiment were baseline, experimental, baseline, and reinstatement. Social reinforcement consisted or praise, putting on the shoulders and kicking under the table. Results suggest a combination of motivational and learning phenomena. Accuracy of counting increased."

Williams, W. B., Brown, L. and Certo, N. Basic components of instructional programs for severely handicapped students. American Association for the Education of Severely and Profoundly Handicapped Review, 1975, 1(1), 1-39.

"Several basic components of instructional programs for severely handicapped students were delineated and described." Basic components described were: 1) What skill is to be taught?, 2) Why?, 3) How will it be taught?, 4) How will teacher empivically verify it has been taught?, 5) Can student perform skill at a situationally acceptable rate?, 6) What variables will be necessary to teach skill?, 7) Will performance skill generalize? and 8) Can student perform in absence of directions from an authority figure?

ENVIRONMENTAL DESIGN

Gunzburg, H. C. The physical environment of the mentally handicapped: VII: 39 steps leading towards normalized living practices in living units for the mentally handicapped. British Journal of Mental Subnormality, 1973, 19, 91-99.

"Stresses the therapeutic importance of the design and environment on inpatient units for the mentally retarded. A checklist of 39 desirable features relating to physical characteristics and routine ward practices is presented for wards of no more than 20 ambulatory inpatients. Explanations and practical suggestions for implementation of improvements are included. Three levels of managerial decision-making on such units are discussed."

Gunzburg, H. C. The physical environment of the mentally handicapped: IX: The search for a home environment. British Journal of Mental Subnormality, 1974, 20, 28-42.

"Critically appraises results of an exercise in which 3rd year architecture students redesigned a living unit for mentally handicapped Ss to create a homelike, noninstitutional environment. The design aspects of 6 floor plans are evaluated with regard to the Ss' special needs."

Hereford, S. M., Cleland, C. C. and Fellner, M. Territoriality and scent-marking: A study of profoundly retarded enuretics and encopretics. American Journal of Mental Deficiency, 1973, 77, 426-430.

"Predictions regarding the effects of altering the nature and amount of individual sleeping space available to profoundly retarded adult males were derived from tehological theory and previous research on territorial defense and scent-marking. There was a marked decrease in nocturnal enuresis and encopresis following territorial expansion, with a further decrease after demarcation of the individual areas by visual boundaries."

McGlinchey, M. A. and Mitala, R. F. Using environmental design to teach ward layout to severely and profoundly retarded blind persons: A proposal. New Outlook for the Blind, 1975, 69(4), 168-171.

> "A simple and inexpensive environmental design system utilizing wall and floor cues is proposed to decrease fear of the environment and to promote movement, independence, and social interaction among blind severely and profoundly retarded persons."

Murphy, M. J. and Zahm, D. Effects of improved ward conditions and behavioral treatment of self-help skills. Mental Retardation, 1975, 13(6), 24-27.

> "Studied 3 groups (N=8) of institutionalized severely and profoundly retarded males (mean CA, 9-14.5 years) to determine the effects of enhancement of the physical and social environment and behavior modification training upon acquisition of self-help skills. Two groups were placed on renovated modular living units with a resident-to-staff ratio 8 to 1.5. One of these groups also received behavior modification training. The control group remained on a dayroom-dormitory ward with a resident-to-staff ratio of 30 to 1. Self-help skills were assessed before and after a 10 week period. Profoundly and severely retarded Ss showed significant increases in self-help skills after behavior modification training. Ss exposed to improved environment and staffing conditions did not change more than controls."

Rowe, D. The effect of a more stimulating environment on the behavior of a group of severely subnormal adults. British Journal of Mental Subnormality, 1974, 20, 6-13.

> "Assessed 21, 17-38 year old severely subnormal male patients (IQ 30, MA 2 years) on a hospital ward to develop a more enriched environment. Piagetian techniques for analyzing the sensorimotor period were applied and a program of activities instituted. Follow-up assessment 7 months later showed that 14 Ss had reached Stage 6 of Object Pervianence, Piaget's stage at which language begins to develop. It is concluded that a more stimulating environment can help mental subnormals realize more potential, possibly even helping to reach the stage of language if begun early."

INAPPROPRIATE BEHAVIORS

Ausman, J., Ball, T. S. and Alexander, D. Behavior therapy at pica with a profoundly retarded adolescent. Mental Retardation, 1974, 12(6), 16-18.

> "Used a 4 phase timeout procedure to treat a nonverbal 14 year old severely retarded, ambulatory male, who had a lengthy history of pica. Results indicate that after 9 months treatment, S's pica had been contained to a significant degree."

Azroon, N. H. and Wesolowski, M. D. Theft reversal: An overcorrection procedure for eliminating stealing by retarded persons. Journal of Applied Behavior Analysis, 1974, 7, 577-581.

> "To deal with the problem of stealing, an overcorrection procedure was designed in which the thief was required to give his victim an identical item to the stolen one in addition to returning the stolen one.

This procedure was compared to a restitution (simply returns item) procedure. Under a restitution procedure an average of 20 thefts per day had been occurring among 34 retarded residents of an institution. The overcorrection procedure reduced the thefts by 50% on the first day, 75% on the 2nd day, and eliminated thefts by the 4th day, after which no further stealing occurred."

Conway, J. B. and Bucher, B. D. "Soap in the mouth" as an aversive consequence. Behavior Therapy, 1974, 5(1), 154-156.

"Reports that applying a shot of aerosol shaving cream into the mouth of a profoundly retarded girl effectively reduced tantruant screaming behaviors. Advantages of this method of aversive control are briefly discussed."

Drabman, R. and Spitalnik, R. Training a retarded child as a behavioral teaching assistant. Journal of Behavior Therapy and Experimental Psychiatry, 1973, 4(3), 269-272.

"Describes a beh mod program used to change the classroom disruptive behavior of 3 retarded children by allowing one of them, a 14 year old boy, to serve as a 'helper' and distribute candy reinforcers for good behavior. Appropriate behavior by him and the 2 other children improved through this program.

Edinger, D. L. (The generalization effects of time out as a consequence.) Scientia Paedagogica Experimentalis, 1973, 10(1), 38-45.

"Examined the generalization effects of response-contingent time out on the behavior of a severely retarded 8 year old female. Significant decreases in the frequency of all undesirable behaviors measured were found."

Fox, R. M. and Azrin, N. H. Restitution: A method of eliminating aggressive-disruptive behavior of retarded and brain damaged patients. Behavior Research and Therapy, 1972, 10, 15-27.

"A procedure was developed that provided disruptive offenders with re-education, removal of the reinforcement for the offense, time-out from general positive reinforcement, and an effort requirement. The offender was required by instructions or physical guidance to overcorrect the general psychological and physical disturbance created by the offense. The procedure was applied to one brain-damaged and two retarded patients, who displayed one or more of the following types of behavior: physical assault, property destruction, tantrums, continuous screaming and biting, all of which had resisted other treatments. This procedure reduced the disturbed behaviors of all patients to a near zero level with 1 or 2 exceptions and maintained this therapeutic effect with minimal staff attention."

Lutzker, J. R. Social reinforcement control of exhibitionism in a profoundly retarded adult. Mental Retardation, 1974, 12(5), 46-47.

"Reports that exhibitionism was successfully treated in a 52 year old male by applying differential social reinforcement for other behavior."

Lyon, R. Use of the Premack principle to modify classroom attendence behavior in a severely retarded individual. Research and the Retarded, 1976, 3(1), 28-34.

"When the opportunity to engage in a more preferred activity (lying in a bed and listening to the radio) was made contingent upon spending the appropriate amount of time in a less preferred activity (attending school classes), the amount of time spend in the low preference behavior increased significantly."

Pendergrass, V. E. Timeout from positive reinforcement following persistent, high-rate behavior in retardates. Journal of Applied Behavior Analysis, 1972, 5, 85-91.

"Brief isolation from a group situation was found to suppress persistent, high-rate misbehavior in two extremely withdrawn children, even though no positive reinforcement for other behaviors was systematically administered. Changes in a variety of behaviors including looking, touching, speaking, responding and other non-punished misbehaviors, were observed when timeout was administered contingent on only misbehavior of each child.

Salzberg, B. and Napolitan, J. Holding a retarded boy at a table for 2 minutes to reduce inappropriate object contact. American Journal of Mental Deficiency, 1974, 78, 748-751.

"Held a profoundly retarded boy at a table for 2 minutes contingent upon door playing and staring out window behavior. This procedure produced a marked reduction in these behaviors.

Schrader, C. The effectiveness of intermittent timeout in reducing and maintaining low levels of "out of seat" behavior in severely retarded children (Doctoral dissertation, Long Island University, The Brooklyn Center, 1976). Dissertation Abstracts International, 1976, 36, 6399B. (University Microfilms No. 76-13, 882)

Talkington, L. W. and Hutton, W. O. Hyperactive and nonhyperactive institutionalized retarded residents. American Journal of Mental Deficiency, 1973, 78, 47-50.

"Institutionalized hyperactive residents were compared to nonhyperactive retarded residents. Four variables were found (disrupts activities, stereotyped behavior, removes/tears clothes and receives tranquilizers) significantly discriminated members of the two groups and that hyperactivity occurred more often in males and as ability level decreased.

Teske, J. E. An evaluation of behavior modification and reduced class size with disturbed moderately and severely mentally retarded (Doctoral dissertation, University of Southern California, 1975). Dissertation Abstracts International, 1975, 35, 3574A. (University Microfilms No. 75-28, 655)

Walker, J. E. and Shea, T. M. Individualizing behavior modification interventions in a day care center for the severely retarded. Journal for Special Educators of the Mentally Retarded, 1974, 11, 14-22.

"Described application of behavioral management interventions to deal with unacceptable behaviors of retardates enrolled in a day care

center. Results indicated that appropriate individual interventions can be effective when applied in a group setting."

INSTITUTIONALIZATION/COMMUNITY PLACEMENT

Martin, G. L. The future for the severely and profoundly retarded: Institutionalization? Normalization? Kin cars? Foster homes? Canadian Psychologist, 1974, 15(3), 228-241.

"Examines some of the anti-institution and pro-normalization statements as they pertain to rehabilitating severe and profound retardates. A 'homestyle' community residence for rehabilitating former severe and profound retardates is described and compared to foster home placement. Although institutions have been under heavy attack, it is suggested that they might survive in a desirable way for many years if a new role in partnership with community rehabilitation programs is adopted."

Vitello, S. T. Cautions on the road to normalization. Mental Retardation, 1974, 12(5), 39-40.

"Discusses the development of institutionalized care in the US for the mentally retarded and offers 10 cautions regarding the training and education of the severely and profoundly retarded."

LANGUAGE (EXPRESSIVE)

Baer, D. M. and Guess, D. Teaching productive noun suffixes to severely retarded children. American Journal of Mental Deficiency, 1973, 77, 498-505.

"Procedures of differential reinforcement and imitation were used to teach severely retarded children to convert verbs to nouns by adding the (er) morpheme. Training continued until the subjects required a minimum number of trials to reach criterion for each verb presented, at which point they consistently produced the correct response on the first presentation of each new verb. Experimental control of the training procedures was demonstrated by teaching the grammatical misuse of the (1st) morpheme, rather than the (er) morpheme, when labeling verbs."

Barton, E. S. Operant conditioning of social speech in the severely subnormal and the use of different reinforcers. British Journal of Social and Clinical Psychology, 1972, 11, 387-396.

"A small group of severely subnormal female patients was conditioned with reinforcement procedures to interact verbally. A reversal designed showed the effect of reinforcement on the dependent variable and allowed comparison between the effect of candy and token reinforcement. Candy was demonstrated to increase social speech on slightly above baseline level; tokens increased it approximately 30% and reduced the amount of response variability."

Barton, E. S. Operant conditioning of appropriate and inappropriate social speech in the profoundly retarded. Journal of Mental Deficiency Research, 1973, 17(3-4), 183-191.

"Conditioned 3 profoundly retarded females to speak to each other when isolated in a bare room, using token reinforcement. Inappropriate verbalization and appropriate speech were each conditioned in a reversal design. In the final extinction session the verbalization rate gradually decreased suggesting that speech for these Ss had not gained much reinforcement value of its own. No generalization of speech (to a workshop situation) occurred."

Bricker, W. A. and Bricker, D. D. Assessment and modification of verbal imitation with low-functioning retarded children. Journal of Speech and Hearing Research, 1972, 15, 690-698.

"An institutionalized population of 30 children were given a speech sound imitation test composed of 25 consonent-vowel combinations. Results of this assessment indicated that although the retarded children made more errors than preschool children, the pattern of errors was similar. The most frequent type of error made by low-functioning children as well as normal preschoolers was in place of articulation. Subsequently, 10 low-functioning children were divided into component and speech-sound training groups. The difference in these procedures was the units of behavior that served as the training stimuli. The results indicated that the speech-sound group emitted fewer errors than the component group on the post test."

Dodd, B. Recognition and reproduction of words by Down's Syndrome and non Down's syndrome retarded children. American Journal of Mental Deficiency, 1975, 80, 306-311.

"Compared 10, 7.75-11.25 year old children with Down's Syndrome with 10 other severely retarded children on tests of recognition and reproduction of real and nonsense words after 0-, 15-, and 30- second delay. Results indicate that Down's Syndrome children performed better on the recognition task, but worse on the reproduction task after delay, as compared with the other retarded children. It is hypothesized that the articulatory deficit in the Down's Syndrome group is part of a general motor disability due to a difficulty in preprogramming sequences of movement."

Fraser, W. Modifications of language situations in an institution for profoundly retarded children. Developmental Medicine and Child Neurology, 1972, 14(2), 148-155.

"Forty-nine mentally retarded children (CA 3.7-15.9 years, MA 50-129 weeks) with diverse diagnoses were given, individual and group training to stimulate naming behavior. Each S served as his own control in a comparison between learning through a Normal Language Corpus (NLC) and a Reduced Language Corpus (RLC). The simplified (RLC) technique was not superior to the NLC but individual training was superior to group training, particularly in the MA range 50-120 week."

Haviland, R. T. A stimulus to language development: The institutional environment. Mental Retardation, 1972, 10(2), 19-21.

"Suggests appropriate visual, auditory, and tactile-kinesthetic stimuli for the development of speech in institutionalized mental retardates and outlines the role of attendant personnel."

Jeffrey, D. B. Increase and maintenance of verbal behavior of a mentally retarded child. Mental Retardation, 1972, 10(2), 35-40.

"Operant and imitative techniques were used in programming generalization of verbal behavior in a child."

Kahn, J. V. Relationship of Piaget's gensorimotor period to language acquisition of profoundly retarded children. American Journal of Mental Deficiency, 1975, 79, 640-643.

"Studied relationship of Stage 6 of Piaget's sensorimotor period and the acquisition of meaningful expressive language. Subjects consisted of eight profoundly retarded children who displayed some meaningful expressive language and eight profoundly retarded children who displayed no meaningful expressive language. Found a strong relationship between Stage 6 functioning and meaningful expressive language."

Ramberg, J., Guess, D. and Sailor, W. Training generalized functional acquisition of "yes" and "no" in three retarded children. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(3), 18-39.

"Assessed a training procedure designed to establish functional expressive usage of "yes" and "no" in the language skills of three institutionalized retardates. The procedure employed a trainer and a "modeler" (second trainer), in the context of a training module which utilized a match-mismatch paradigm. The procedure utilized a pretest-posttest, changing-criterion experimental design to evaluate acquisition and limited generalization of the two responses as a function of the contingent reinforcement training procedure. The procedure was effective with the three subjects."

Stremel, K. Language training: A program for retarded children. Mental Retardation, 1972, 10(2), 47-49.

"Three moderately to severely retarded children who demonstrated a limited expressive noun vocabulary were placed in a language program to be trained to produce the basic grammitical relations (subject-verb-object response). Behavior modification techniques were employed in the language training program. Results indicate that children learned to produce appropriate subject-verb-object responses to novel pictures which represented trained and untrained constructions. Two of the subjects produced a large number of subject-verb, verb-object and subject-verb-object responses in their spontaneous speech after training was completed."

Twardosz, S. and Baer, D. M. Training two severely retarded adolescents to ask questions. Journal of Applied Behavior Analysis, 1973, 6, 655-661.

"Taught 2 severely retarded 16 year old boys to discriminate items they knew how to label from items they did not know, to respond appropriately by naming any training items and to ask a question about any items they did not know. The Ss did not learn to question when appropriate questioning was modified by the E, however when prompted and rewarded for asking questions about some training items, they began to ask questions about items they did not know."

Walker, J. B. The use of music as an aid in developing functional speech in the institutionalized mentally retarded. Journal of Music Therapy, 1972, 9(11), 1-12.

"Studied the use of various music and related audiovisual activities to aid in the development of functional speech in 6 institutionalized severely retarded children. Results indicate that correct functional speech can be acquired at a relatively rapid rate by the institutionalized severely retarded using music therapy procedures."

Wheeler, A. J. Using attendants to build a verbal repertoire in a profoundly retarded adolescent. Training School Bulletin, 1973, 70, 140-144.

"An attendant-administered program for developing imitative speech through reinforcement techniques is described. Improvement in imitative control over the course of training was demonstrated and this control generalized to situations outside of sessions."

LANGUAGE (GENERAL)

Carrier, J. K. Nonspeech noun usage training with severely and profoundly retarded children. Journal of Speech and Hearing Research, 1974, 17, 510-517.

"A nonspeech symbol system, consisting of small pieces of masonite cut into various shapes, was used to investigate the learning of noun usage by nonverbal severely and profoundly retarded children. Results indicated that most such subjects can learn appropriate skills and do so in a short period of time when this nonspeech response mode is employed."

Ferguson, S. J. Manual language with the severely and profoundly retarded: A Pilot Study. Research and the Retarded, 1975, 2(3), 32-40.

"Reviewed literature dealing with speech deficits and treatment programs for the non-speaking retarded. Reported that the results of a pilot study with 24 non-speaking severely and profoundly retarded adults indicated a reinforcement and prompting procedure might be one effective means by which to teach these individuals manual language."

Flouriot, M. The residential ward as a verbal environment (Doctoral dissertation, University of Rochester, 1973). Dissertation Abstracts International, 1973, 34, 2595A-2596A. (University Microfilms No. 73-25, 807)

Giles, A. S. The verbal environment of institutionalized mentally retarded children (Doctoral dissertation, Syracuse University, 1971). Dissertation Abstracts International, 1972, 32, 6099B. (University Microfilms No. 72-6581)

Hagen, C., Porter, W. and Brink, J. Nonverbal communication: An alternate mode of communication for the child with severe cerebral palsy. Journal of Speech and Hearing Disorders, 1973, 38(4), 448-455.

"Investigated the feasibility of teaching 4 10-12 year old severely mentally retarded cerebral palsied children to use an electromechanical communication device. Ss easily learned to use the devise to signal distress and indicate the need for attention. The extent to which they used the device depended heavily on the attitude of the staff."

Harvey, E. and Bornstein, R. The effects of visual cue fading and task complexity on auditory discrimination in severely retarded children. Psychological Reports, 1974, 24(1), 109-117.

"Investigated 2 procedures (visual cue fading and task complexity) involved in teaching simple auditory discriminations to 20 severely retarded children who were assigned to 1 of 4 treatment groups in 2 and 2 factorial design. Analysis of variance on the final day's data indicated differences favoring visual cue fading precedures and that a 2 stimulus task was much more difficult than a 1 stimulus task. Another analysis of variance showed only differences in task difficulty."

Kuntz, J. B. A nonvocal communication development program for severely retarded children (Doctoral dissertation, Kansas State University, 1974). Dissertation Abstracts International, 1975, 36, 219A. (University Microfilms No. 75-14, 366)

Naor, E. M. and Balthazar, E. E. Provision of a language index for severely and profoundly retarded individuals. American Journal for Mental Deficiency, 1975, 79, 717-725.

"Developed an index of language proficiency by using a standardized system of direct observation of 92 ambulant, institutionalized, severely and profoundly retarded individuals. Found that 75% of subjects employed some type of vocal or gestural communication, 60% employed some vocal or verbal expression, and 25% employed some meaningful articulate speech.

Phillips, S., Liebert, R. M. and Poulos, R. W. Employing paraprofessional teachers in a group language training program for severely and profoundly retarded children. Perceptual and Motor Skills, 1973, 36(2), 607-616.

"Conducted a study with 42 severely and profoundly retarded children to evaluate the effectiveness of a newly developed language training program particularly suited for the severely retarded. Program was designed for use with paraprofessional staff acting as teachers. Comparison of pre and post test performances indicates clear treatment effects, demonstrating potential for wide-spread institutional use of such programs."

Richardson, T. Sign language for the SMR and PRM. Mental Retardation, 1975, 13(3), 17.

"Describes a sign language program conducted for 9 severely or profoundly retarded training school residents. Significant improvement by all Ss at the end of the list year are reported. With an increased enrollment in the 2nd year including Ss with emotional problems, progress by 75% of Ss in comprehension and expression are reported."

Shiach, G. M. Effectiveness of a Peabody language development kit with severely subnormal children. British Journal of Psychology, 1973, 43, 294-297.

"Studied an experimental group (N=11) and a control group (N=10) of severely subnormal children. The experimental group was given daily instruction with level P of the Peabody Language Development Kits.

Both groups were pre and post tested on some subtests of the ITPA. After a 10 month period, the experimental group showed significant gains over the control group on the ITPA subtest scores."

Snyder, L. K., Lovitt, T. C. and Smith, J. O. Language training for the severely retarded: Five years of behavior analysis research. Exceptional Children, 1975, 42, 7-15.

"Reviews 23 behavioral analysis studies of language training for the severely retarded which have been conducted since 1968. Found that many of studies: 1) dealt only with expressive language, 2) investigated the generative property of language, and 3) employed institutionalized subjects over the age of 8. It was also noted all works reviewed made reference to the use of tangible reinforcers. Authors suggested antecedent conditions be given closer scrutiny, effects of a variety of reinforcers be investigated, variables which result in generalization and maintenance.

Topper, S. T. Gesture language for a severely retarded male, Mental Retardation, 1975, 13(1), 30-31.

"S was a 28 year old severely mentally retarded male who used no verbalizations other than the word 'car' and the vowel 'a'. Thirteen daily activity symbols were introduced by showing S a picture of the activity, labeling it, then producing a gesture. Results show S currently exhibits for less frustration when asked to use the gestures than when asked to speak and appears to be extremely pleased with his communicative ability. It is concluded S has untapped language potential and that severely and profoundly retarded population would benefit from such a program."

LANGUAGE (IMITATION LEARNING/RECEPTIVE)

Altman, R., Talkington, L. W. and Cleland, C. C. Relative effectiveness of modeling and verbal instructions on severe retardates gross motor performance. Psychological Reports, 1972, 31(3), 695-698.

"The relative efficacy of modeling and verbal instruction employed independently was examined in a study with 45 severely retarded males. The failure to achieve imitative learning under either treatment conditions is consistent with the reported nonimitative status of this population."

Baldwin, J. M. Observatinal learning following operantly conditioned imitation in severely and profoundly retarded children (Doctoral dissertation, Marquette University, 1973). Dissertation Abstracts International, 1974, 35, 1071B. (University Microfilms No. 74-18, 219)

Bitcon, C. H. and Ball, T. S. Generalized imitation and Ortt-Schulwerk. Mental Retardation, 1974, 12(3), 36-39.

"The extent to which the 'Schulwerk' method promoted generalized imitation among 16 severely retarded adolescents was evaluated. The test of generalized imitation consisted of 4 gross motor and 4 fine motor items scored on a pass-fail basis. Results indicate that generalized imitation was generated by 'Schulwerk' but not

by a varied schedule of group recreational activities in which a control group of Ss had participated."

Bricker, D. D. Imitative sign training as a facilitator of word-object association with low-functioning children. American Journal of Mental Deficiency, 1972, 76, 509-516.

"A 90 item two-choice discrimination test was given to 26 institutionalized mentally retarded children. The experimental group was given a sequence of training in which imitative-sign movements were taught and subsequently were paired with appropriate words followed by pairing with appropriate objects. The control subjects were given no other training. Following training, a post test was administered. The post test was a replication of the 90 item word-object discrimination test using the objects name to indicate the correct choice. Results indicated that reliable differences were found between the experimental and control groups on the criterion measure suggesting that imitative sign training facilitated word-object association."

Bry, P. M. and Nawas, M. M. Is reinforcement necessary for the development of a generalized imitation operant in severely and profoundly retarded children? American Journal of Mental Deficiency, 1972, 76, 658-667.

"Utilizing two severely retarded children, an experiment was conducted to determine if a generalized imitation operant can be developed without extrinsic eeinforcement, as the stimulus viewpoint argues, or if it is essential as the stimulus-response view asserts. Results favored the latter theory, but not without reservations. The experiment was replicated on two profoundly retarded children yielding virtually the same, albeit more pronounced, results supporting the S-R viewpoint."

Butz, R. A. and Hasazi, J. E. Developing verbal imitative behavior in a profoundly retarded girl. Journal of Behavior Therapy and Experimental Psychiatry, 1973, 4(4), 389-393.

"Describes the use of food reinforcement to develop verbal imitative behavior in a mute profoundly retarded 14 year old girl. Study was comprised of 9 phases (1st 4 to develop vocalizations, last 5 to develop imitation of 5 training sounds). Correct imitation of training sounds developed rapidly with some evidence of generalized imitative responding."

Dorow, L. G. Conditioning music and approval as new reinforcers for imitative behavior with the severely retarded. Journal of Music Therapy, 1975, 12(1), 30-39.

"Conducted a study with 3 severely retarded females to: a) examine the effect of secondary reinforcers on the performance of imitative behaviors, b) study the effect of the conditioning process on an approval reinforcement condition and an approval plus music condition, and c) determine the durability of the newly conditioned reinforcers across a 2nd baseline period. Behavior was trained and tested under 3 reinforcement conditions: a) approval, b) approval and music, and c) approval, music, and food. Results show that conditions a and b did not function as reinforcers during the initial baseline period. Condition C increase the number of test trials

completed during the treatment period under conditions a and b. However, more test trials were completed under Condition C than under condition a during the treatment period."

Jacobson, L. I., Bernal, G. and Topez, G. N. Effects of behavioral training on the functioning of a profoundly retarded microcephalic teenager with cerebral palsy and without language or verbal comprehension: A case history. Behavior Research and Therapy, 1973, 11, 143-145.

"Reports the use of a variant of the conceptual acquisition program with an institutionalized profoundly retarded teenager. Results indicate the profoundly retarded teenager was not only trainable, but capable of rapid acquisition of behavioral, conceptual, and linguistic skills."

McGavern, M. L. Modeling behavior in echopratic and non-echopratic profoundly retarded subjects. American Corrective Therapy Journal, 1972, 26(5), 136-138.

"Examined whether profoundly retarded Ss who are echopratic perform differently on a motor imitation task subsequent to film viewing than do profound retardates in general. Eleven echopratic and 10 non-echopratic males were studied. Measurements were made of chronological a age and social quotient. Results show that the echopratic group responded better to modeling than did non-echopratic retardates. This is interpreted in terms of the echopra ic's special ability at motor imitation."

Marburg, C. C. Generalized imitation as a behavior therapy technique with retarded children (Doctoral dissertation, University of Texas at Austin, 1974). Dissertation Abstracts International, 1974, 35, 2440B. (University Microfilms No. 74-24, 898)

Martin, J. A. The effect of incongruent instructions and consequences on imitation in retarded children. Journal of Applied Behavior Analysis, 1972, 5, 467-475.

"Conducted a 13 phase experiment with 3 severely retarded boys. In 8 phases, S's instructions before demonstrating a behavior and the consequences for imitative behavior were incongruent. Consequences rather than instructions controlled imitative behavior when: a) Ss were instructed not to imitate but received reinforcers if they imitated, b) Ss were instructed to imitate but were differentially reinforced for other behavior, and c) Ss were instructed to imitate but were verbally reprimanded for imitation. Although Ss were high imitative at the beginning of the study, when there was no reinforcement for imitation Ss gradually stopped imitating when instructed not to imitate. Instructions seemed to control imitative behavior when there was no reinforcement for imitation and Ss were instructed to imitate. Results indicate a need for further investigation of antecedent and consequent variables in imitation experiments and point out that certain techniques may be more efficient than others in eliminating well established responses."

Metzler, R. K. The use of music as a reinforcer to increase imitative behavior in severely and profoundly retarded female residents. Journal of Music Therapy, 1974, 11(2), 97-110.

"Attempted to measure the influence of music as a reinforcer to increase imitative behavior in profoundly retarded female residents. The Ss, 30 retarded adults were divided randomly into 3 groups: Group K had no music, Group L had continuous music, and Group M had music as a reinforcer. No significant differences were found. Thus the variable of music as a reinforcer did not increase imitative behavior in the Ss studied, nor did it influence discriminatory behavior."

Rowland, M. E. A study of the use of higher functioning retardates as language acquisition trainers of lower functioning retardates in attendant supervised training sessions on institutional wards (Doctoral dissertation, Michigan State University, 1973). Dissertation Abstracts International, 1974, 34, 7613A-7614A. (University Microfilms No. 74-13, 964)

Talkington, L. W., Hall, S. M. and Altman, R. Use of a peer modeling procedure with severely retarded subjects on a basic communication response skill. Training School Bulletin, 1973, 69, 145-149.

"Gave basic communication training to 2 groups of 25 severely retarded children under experimental conditions of peer model demonstrating the correct response or verbal instruction only. Twenty-five control retardates were given equal activity time with no training. The modeling group significantly outperformed the verbal instruction group, who in turn outperformed controls."

LANGUAGE (INSTRUCTION-FOLLOWING/RECEPTIVE)

Gladstone, B. W. and Sherman, J. A. Developing generalized behavior-modification skills in high school students working with retarded children. Journal of Applied Behavior Analysis, 1975, 8, 169-180.

"Seven high school trainees each conducted training sessions with 2 profoundly retarded children. Each trainee was asked to teach one child to follow the instruction 'Bring ball and the other child to follow the instructions sit down and come here'. During baseline sessions before the trainees had been instructed in behavior modification techniques, no trainee successfully taught either child to follow the instructions. After trainees had been exposed to videotape, modeling, rehearsal and corrective feedback and praise training procedures to teach them to teach one child to follow the instruction 'bring ball', 4 out of 7 trainees were able to teach a child to 'bring ball'. Further, all trainees were able to teach their other children to follow the instructions 'sit down' and 'come here' even though they had no modeling, rehearsal or feedback on how to teach the children to follow these instructions. The ability of the trainees to teach new behaviors to different children indicates the development of generalized skills in b-mod."

Kazdin, A. E. and Erickson, L. M. Developing responsiveness to instructions in severely and profoundly retarded residents. Journal of Behavior Therapy and Experimental Psychiatry, 1975, 6(1), 17-21.

"Trained 15, 9-22 year old severely and profoundly retarded institutionalized females to comply with instructions. In a multiple baseline design, 4 groups of residents were sequentially exposed to

training in instruction-following behavior. Baseline data were gathered for responses to instructions in a play activity situation. During training, residents were reinforced and prompted to develop compliance to a series of instructions. Reinforcers were gradually and finally only delivered after the entire instruction following sequence was completed. Results indicate that training dramatically increased instruction following behavior across groups."

Scheuerman, N., Cartwright, B., York, R., Lowry, P. and Brown, L. Teaching young severely handicapped students to follow verbal directions. Journal of Special Education, 1974, 8, 223-236.

"Purpose of study was to teach basic direct following skills to young severely handicapped students. Done in 3 phases: 1) teach students to follow one component direction (e.g. - 'stand up'), 2) teach students to follow one component distant direction (e.g. - 'go to door'), and 3) teach students to follow two-component local serial direction (e.g. - 'stand up and raise hands'). All 12 students were taught to follow at least one component local and distant direction. Authors note no measures of generalization to other people and places were made."

Striefel, S., Bryan, K. S. and Akins, D. A. Transfer of stimulus control from motor to verbal stimuli. Journal of Applied Behavior Analysis, 1974, 7, 123-135.

"Used a transfer of stimulus control procedure to teach 3 profoundly retarded adolescents a series of specific responses to specific verbal instructions. After imitative control of a behavior was established, a verbal instruction was presented immediately before the behavior was modelled. Each correct response was followed on the next trial by inserting a delay between the verbal instruction and the modelling of the behavior. Delays increased from trial to trial. Transfer of stimulus control was indicated when an S responded correctly on 5 consecutive trials before the behavior was modelled. All 3 Ss responded correctly to each verbal instruction after that item was trained in a multiple baseline order. Generalization did not occur to items that had not been trained."

Striefel, S. and Wetherby, B. Instruction-following behavior of a retarded child and its controlling stimuli. Journal of Applied Behavior Analysis, 1973, 6, 663-670.

"Used a combination of positive reinforcement and fading of physical guidance to teach a profoundly retarded 11 year old boy specific responses to specific verbal instructions. S started responding correctly to each verbal instruction as that item was trained in a multiple baseline order. Generalization did not occur to items that had not yet been trained, nor to items included to assess generalization."

MISCELLANEOUS (DEFINITION, PREVALENCE, CLIMATE, PSYCHOTHERAPY)

Abramowicz, H. K. and Richardson, S. A. Epidemiology of severe mental retardation in children: Community studies. American Journal of Mental Deficiency, 1975, 80, 18-39.

"Reviewed twenty-seven community studies of severe mental retardation (IQ 50). Found that: 1) prevalence rate of this condition in older children was 4 per 100, 2) rate was slightly higher in males, 3) rate did not vary by social class, 4) one-half severely retarded children had associated handicaps, 5) in most cases causes were not known (Downsyn 1/6 to 1/3 cases, small % due to chromosomal abnormalities, metaboloc diseases or infection)."

Justen, J. E. Who are the severely handicapped: A problem in definition. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(5), 1-12.

"The need for adequate definitions for the severely handicapped as well as some of the problems involved in developing a suitable definition are discussed in this paper. Both practical and philosophical problems are considered. A tentative definition is proposed to generate further discussion."

Lawrence, C. W. The relationship between climatological and behavioral variables among profoundly retarded males (Doctoral dissertation, University of Texas at Austin, 1973). Dissertation Abstracts International, 1973, 34, 2423A-2424A. (University Microfilms No. 73-26, 034)

Zemon, A. L. Analysis of the defanse mechanisms, frustration styles, and social organization patterns of the severely and moderately mentally retarded (Doctoral dissertation, Catholic University of America, 1973). Dissertation Abstracts International, 1973, 34, 1146A. (University Microfilms No. 73-19, 775)

MOTOR PERFORMANCE

Hardy, L. M. Observational and vicavious influences on the motor performance of severely retarded males (Doctoral dissertation, University of Manitoba, 1975). Dissertation Abstracts International, 1975, 36, 2497B. (Microfilm copy available at National Library of Canada at Ottawa)

Marks, P. and Ball, T. S. Hazardous voluntary falling: A treatment approach. Mental Retardation, 1974, 12(5), 36-39.

"Prior to treatment, a nonverbal, 8 year old severely retarded child was confined in an enclosed crib to prevent hazardous voluntary falling. The treatment program involved the technique of developing a small rug as a cue and concurrently, a conditioned reinforcer for sitting. The rug, when placed on a stool or bed, served the dual function of controlling falling and reinforcing appropriate sitting or lying. It was demonstrated that bed and stool falling changed as a function of rug placement and control over falling was retained even after the rug was no longer in use."

Ness, R. A. The standardization of the basic movement performance profile for profoundly retarded institutionalized residents (Doctoral dissertation, North Texas State University, 1974). Dissertation Abstracts International, 1975, 35, 5908A. (University Microfilms No. 75-7059).

O'Brien, F., Azrin, N. H. and Bugle, C. Training profoundly retarded children to stop crawling. Journal of Applied Behavior Analysis, 1972, 5, 131-137.

"Describes a study of the profoundly retarded child who continues to crawl even though he can walk. Crawling and walking were viewed as a alternative response modes, both reinforced by movement. A training program was designed to increase ease and speed of walking relative to that of crawling and consisted of restraint for crawling and priming of walking. With this program 4 profoundly retarded 4-7 year olds reduced crawling and began to walk instead. When training was discontinued 2 Ss with moderate walking impairment continued to walk rather than crawl. Two Ss with severe impairment, however required occasional use of the restraint procedure to maintain walking as the dominant mode of locomotion. The program was easily administered, required little time, and was effective for all 4 Ss."

Rapp, D. W. The effects of motor training on a sample population of blind, severely and profoundly mentally retarded males (Doctoral dissertation, Boston College, 1975). Dissertation Abstracts International, 1975, 36, 2138A-2139A. (University Microfilms No. 75-21, 290)

Rogers, S. Factors affecting sensorimotor development in institutionalized profoundly retarded children (Doctoral dissertation, Ohio State University, 1975). Dissertation Abstracts International, 1975, 36, 1417B-1418B. (University Microfilms No. 75-19, 483)

Schwartz, F. Use of positive reinforcement to attain proper walking in a severely retarded child. SALT: School Applications of Learning Theory, 1973, 5(2), 31-38.

"Applied positive reinforcement to incompatible behaviors of good posture and straight walking to a physically handicapped, retarded 20 year old hydrocephalic female. At first only walking straight was reinforced, then only holding head up, and finally reinforcement occurred only when both straight walking and head up took place. Results indicate that whichever desired behavior was reinforced by itself increased and its opposite decreased. During the 3rd phase, both desired behaviors increased. E noted that reinforcing straight walking did not generalize to good posture."

Shea, R. Position discrimination using vibration as reinforcement with profoundly retarded adults (Doctoral dissertation, University of South Carolina, 1973). Dissertation Abstracts International, 1974, 34, 4675B-4676B. (University Microfilms No. 74-5393)

Werner, R. A. A motor performance scale: Relationship to vocational success for severely mentally retarded adults (Doctoral Dissertation, University of Tennessee, 1975). Dissertation Abstracts International, 1976, 36, 5134A. (University Microfilms No. 76-1992)

MUSIC

Cass, M. The effects of music on retarded individuals in a workshop setting. Research and the Retarded, 1975, 2(1), 18-23.

"The effect of music on work production, off task, social interaction, self-injurious and yelling out behaviors of 39 severely and profoundly retarded citizens engaged in training in a workshop setting was assessed. Found that music did not significantly affect these behaviors."

Kesler, E. B. The effects of a music training program on the music production skills and social development of severely and profoundly retarded institutionalized children and adolescents (Doctoral dissertation, University of Georgia, 1973). Dissertation Abstracts International, 1974, 34, 3991A-3992A. (University Microfilms No. 73-31, 910)

Richman, J. S. The effects of tempo of background music on the manual task performance of institutionalized male retardates (Doctoral dissertation, University of Connecticut, 1972). Dissertation Abstracts International, 1972, 33, 2792. (University Microfilms No. 72-32, 246)

Wooster, P. Operant conditioning and the severely retarded child. Music Journal, 1972, 30, 241.

"Operant conditioning procedures are discussed and a method of using music as a behavior modification tool with severely retarded children is presented."

PARENTS

Appell, L. S. and McKeen, R. L. Parents and professionals rate SMR and PRM adults on developmental tasks: A comparison study. Mental Retardation, 1974, 12(5), 14-16.

"Compared the ratings by parents and professionals of severely and profoundly retarded adults on developmental tasks as described by R. Valett (1970). Results indicate that 73 out of 110 correlations between professional and parent or guardian ratings were significant. In areas where judgement of behavioral manifestations which were emotionally tinged was required, the instrument was weakest; for areas where the tasks were clearly stated descriptions of observable performance and for which the raters were asked to judge the quality of the performance, there was evidence that the professional and parents or guardians agreed strongly. Instances of incorrect scoring procedures are noted."

Carver, J. N. Reaction of parents of severely retarded children at a state training school (Doctoral dissertation, Yale University, 1956). Dissertation Abstracts International, 1972, 32, 5032A-5033A. (University Microfilms No. 72-7735)

McBride, G. P. The relationship between the length of time a severely mentally retarded child resides in the home and the marital adjustment of his parents (Doctoral dissertation, Brigham Young University, 1973). Dissertation Abstracts International, 1973, 34, 2733B. (University Microfilms No. 73-29, 513)

Townsend, P. W. and Flanagan, J. J. Experimental pre-admission program to encourage home care for severely and profoundly retarded children. American Journal of Mental Deficiency, 1976, 80, 562-569.

"Designed an experimental treatment program to reduce institutionalization of severely and profoundly retarded children under 6 years of age. Found that: 1) counseling with mother alone tended to increase marital conflicts and result in a decision to keep the child at home, and 2) instrucing the mother in child-training procedures tended to reduce the number of objectionable child behaviors and

result in a decision to keep the child at home. Suggested that family counseling should be employed and concensus within the family be sought when decisions are made regarding the retarded child's future."

Villechenoux, B. Y. (About psychological aids to families of severely retarded children: Its importance for treatment of these children). Revue du Neuro-psychiatrie Infantile et d'Hygiene Mentale de l'Enfance, 1971, 19(3-4), 159-164.

"Discusses variables which affect the adjustment of parents and retarded children to resident care and describes attempts to ease this adjustment."

PHYSICAL THERAPY/SENSORY STIMULATION

Friedlander, B. Z., Kamin, P. and Hesse, G. W. Operant therapy for prehension disabilities in moderately and severely retarded young children. Training School Bulletin, 1974, 71, 101-108.

"Thirty retarded children (ages: 306 to 10-12, IQ's: 21 to 65) with specific prehension disabilities of finger opposition, wrist rotation, and voluntary grasp responses played in regularly scheduled sessions at school with an automated playtest toy console designed to facilitate improved performance on each of these functions. Correct responses produced audio-visual reinforcers and the frequency and duration of all correct and incorrect responses were recorded. The highly favorable results are interpreted in terms of broad operant behavior principles applied to specific rehabilitation needs."

Griffin, J. C., Patterson, E. T., Locke, B. J. and Landers, W. F. Toward automated physical therapy with the non-ambulatory profoundly retarded via operant conditioning. Behavioral Engineering, 1975, 2(3), 72-75.

"Presents data which indicate the feasibility of automated physical therapy for the crib-bound profoundly retarded via operant conditioning techniques. The eliciting properties of tactile stimulation were determined with 3 children (3½ and 5 years old) involved in daily 30 minute training sessions for 40 days. An inexpensive manipulandum, which has been field tested and which reliably records responses from a crib-bound S was used. Each S's idiosyncratic rate of responding dictated the most effective procedure to increase his rate of gross physical movement. Implications are stated concerning the possibilities of automated physical therapy."

Norton, Y. Neurodevelopment and sensory integration for the profoundly retarded multiply handicapped child. American Journal of Occupational Therapy, 1975, 29(2), 93-100.

"Reports a 9 month study of 3 profoundly retarded, multiply handicapped Ss less than 5 years of age, who received mother administered, clinic-supervised treatment for neurodevelopmental sensory integration. The emergence of more advanced postural reactions, changes in affect, and responses to objects were recorded. Results suggest that new engrams may be established with the aid of normalized

muscle tone and feedback, which in turn can be used to activate formerly precluded neurons. Trends toward early cognitive emergence are discussed in terms of the development of interest and affect, as related to the concept of 'fixation attention' of normal 9 month old infants."

PLAY TIME/ACTIVITY

Reid, D. H. An analysis of variables affecting leisure activity behavior of multihandicapped retarded persons (Doctoral dissertation, Florida State University, 1975). Dissertation Abstracts International, 1976, 36, 6397B. (University Microfilms No. 76-13, 827)

Wade, M. G. Biorhythms and activity level of institutionalized mentally retarded persons diagnosed hyperactive. American Journal of Mental Deficiency, 1973, 78, 262-267.

"Studied free play activity of five profoundly retarded hyperactive children. Measures of free play activity were obtained via a heart rate telemetry system. Children played in groups consisting of two boys, three girls and four boys. Spectral analysis used to test for birohythms in the free play of the children revealed no significant differences in biorhythms as a function of sex or playgroup size."

Wehman, P. Selection of play materials for the severely handicapped: A continuing dilemma. Education and Training of the Mentally Retarded, 1976, 11, 46-50.

"Reviewed research with non-retarded infants and preschoolers relative to preferences for different toys and materials. Recommendations and guidelines were then advanced for selecting optimal play materials for severely and profoundly retarded persons."

PROGRAMS/PROGRAM ASSESSMENT

Dolan, W. S. The first ten months of the Ruebella living-unit. New Outlook for the Blind, 1972, 66(1), 9-14.

"Describes operation of a Ruebella living-unit, established to halt regression and teach basic self-help skills to a group of preschool deaf, blind, mentally retarded children, mostly confined to beds in a residential school."

Eyman, R. K., Silverstein, A. B. and McLain, R. Effects of treatment program on the acquisition of basic skills. American Journal of Mental Deficiency, 1975, 79, 573-582.

"Evaluated effectiveness of different types of programs (standard care, special program, released and in community) in producing changes in ambulation and toilet training in retarded individuals admitted to an institution. Found over a 3 year period: 1) little change in ambulation unless special sensorimotor training was provided, 2) little change in toileting behavior unless special programming was provided, and 3) in all cases those individuals under standard institutional care showed the least change."

Meredith, J. Program evaluation in a hospital for mentally retarded persons. American Journal of Mental Deficiency, 1974, 78, 471-481.

"Investigated the use of a markov chain model in evaluating treatment programs for severely and profoundly institutionalized retarded children. Compared four programs (Intensive Training, School, Beh Mod, and Foster Home) to hospital's standard care program. Measured expected progress, long-range cost and outcomes. Found that Markov model did aid in the evaluation of programs in terms of costs and benefits."

Skarnulis, E. Less restrictive alternatives in residential services. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(3), 40-84.

"Reports on some of the experiences the Eastern Nebraska Community Office of Retardation (ENCOR) have had in setting up their residential programs. This paper also provides a systematic continuum of residential services, rather than a piecemeal approach. It shows how communities can, if necessary, provide such services in a tailor-made fashion, humanly and economically meeting the unique needs of every mentally retarded person and his family."

Sontag, E., Bokee, M. B. and Burke, P. J. Special projects in personnel preparation: An overview of programs designed to train personnel for the education of severely retarded children. Education and Training of the Mentally Retarded, 1974, 9, 169-176.

"An overview of 17 special projects funded by the Division of Personnel Preparation, Bureau of Education for the Handicapped, is presented. These projects are 'designed' to demonstrate and evaluate procedures for preparing personnel to educate the severely handicapped.

Stabler, B., Gibson, F. W., Cutting, D. S. and Lawrence, P. S. Zone planning for accelerating adaptive behavior in the retarded. Exceptional Children, 1974, 40, 252-257.

"In an effort to develop an efficient, practical program to serve a group of mentally retarded children excluded from other treatment programs, an innovative teaching environment was developed. A period of individual therapy designed to increase attending behaviors and decrease aggressive, self destructive, or other intefering responses was followed by programming each child into a therapy zone plan of treatment. The zones of special education, self-help, language skills, socialization and motor skills were used. The zone approach was discussed as a viable community based model."

Steffes, M. Model center programs and telecommunication projects for the severely handicapped. American Association for the Education of Severely and Profoundly Handicapped Review, 1975, 1(2), 1-28.

"Information on Bureau of Education for the Handicapped funded projects for the severely handicapped is presented."

sullivan, J. P. and Batavseh, G. J. Educational therapy with the severely retarded. Training School Bulletin, 1973, 70, 5-9.

"Thirty seven retarded children at the Coastal Center in Ladson, South Carolina were divided into five heterosexual ability groups for 30 minute sessions of educational therapy five days per we k for nine months. Marked improvement was found in motor, perceptual and language skills with transference to self-help skills, socialization and better use of leisure time in the cottage."

_____ A community oriented center for severely and profoundly retarded children: Elisabeth Ludeman Center, Park Forest, Illinois. Hospital and Community Psychiatry, 1975 (Oct), 26(10), 667-670.

"Describes a 3 year old community center which has developed programs that gave the residents a high level of interaction with direct-care staff members and with the community. Features of the program include small groups of children living together in 4 bedroom homes served by the center, vocational training for high school students, the use of the center's facilities by community residents and an audio visual service for inservice training and staff communication.

_____ An alternative to representative day care centers. Education and Training of the Mentally Retarded, 1974, 9, 41-43.

"Describes Programmed Environments for the Developmentally Retarded, a project carried out by J. W. Towney at the University of Kentucky and designed to meet the expected demands for services to the severely developmentally retarded. Since the existing system of day care centers provides only limited instructional time for the children, other possible methods suggested by Dr. Towney for attacking the problem of educating the retarded population are discussed. Specific factors to be considered and major questions needing to be answered before intervention models can be devised are examined."

REFERENCE MATERIAL (A-Z)

Bialac, V. The severely and profoundly retarded: A bibliography. Olympia, Washington: Washington State Library, April, 1970.

"Extensive bibliography of severe and profound literature prior to 1970. Divided into the following areas: 1) Broad aspects, 2) Community programs, 3) Conditioning, 4) Education, 5) Institutional services and residential hall programs, 6) Language, speech and hearing, 7) Mental processes and psychodiagnostics, 8) Parents and family, 9) Physical development, 10) Planning and legislation, 11) Professional services, 12) Recreation, 13) Self-help and practical skills, 14) Social and emotional development, and 15) Vocational and rehabilitation."

Friedl, M. Supplement to a selected bibliography (partially annotated) related to the vocational training of severely handicapped persons. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(5), 46-58. (45 references)

Lloyd, C. References drawn from three CEC bibliographies on the severely and multiply handicapped are listed under the headings of curriculum guides, language instruction, teaching materials, parent guides, materials and technology, and reference materials.

Mid-Atlantic Region Special Education Instructional Materials Center (Ed.). Trainable Mentally Retarded Bibliography. Washington, D. C.: George Washington University, 1968.

Neel, R. S. and Feder, M. Autisoi: An annotated bibliography. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(5), 59-84. (86 references)

"Divided in areas of diagnosis and symptomatology, etiology and epidemiology, treatment, language training, and follow-up studies."

_____ Behavior modification: A selective bibliography. Arlington, VA: CEC Information Center on Exceptional Children, July, 1972. (ERIC Document, Exceptional Child Bibliography Series No. 608)

"Annotated bibliography on behavior modification literature with several entries relevant to severely retarded."

_____ Trainable mentally handicapped-research: A selective bibliography. Arlington, Va: CEC Information Center on Exceptional Children, July, 1972. (ERIC Document, Exceptional Child Bibliography Series No. 640)

"Annotated bibliography of trainable and severely and profoundly retarded literature.

_____ Trainable mentally handicapped-research: A selective bibliography. Arlington, VA: CEC Information Center on Exceptional Children, August, 1972. (ERIC Document, Exceptional Child Bibliography Series No. 641)

"Annotated bibliography oi trainable and severely and profoundly retarded literature.

RESEARCH

Altman, R. and Meyer, E. L. Research needs with severely/profoundly retarded: An interactive model. Education and Training of the Mentally Retarded, 1976, 11, 147-150.

"Presented an interactive model to encourage a systematic coordination of effort toward the development and implementation of a progressive and cohesive attack on the problem of educating the severely handicapped retarded."

Liberty, K. Data dilemma: Response and measurement units for teachers of the severely handicapped. American Association for the Education of Severely and Profoundly Handicapped Review, 1976, 1(5) 13-31.

"A review of response and measurement units used by researchers with the severely handicapped was conducted. A discussion of the applicability of the various response units (e.g., percent) in reference to the desired effects of instruction or intervention and in regard to the specific learning stage are discussed. The author concludes that a careful application of traditional units with some reservations may prove effective for teachers of the severely handicapped."

Christian, W. P., Hollomon, S. W. and Lanier, C. L. An attendant operated feeding program for severely and profoundly retarded females. Mental Retardation, 1973, 11(5), 35-37.

"Twenty eight severely and profoundly retarded females received basic self-help training in a feeding program in which 10 second time out from food was contingent upon inappropriate feeding behavior. The ward attendant staff gradually assumed complete responsibility for the operation of the program. The effectiveness of such a simultaneous attendant-patient training procedure is discussed relative to previous findings."

Foreyt, J. P. and Parks, J. T. Behavioral controls for achieving weight loss in the severely retarded. Journal of Behavior Therapy and Experimental Psychiatry, 1975, 6(1), 27-29.

"A weight loss program for 3 severely retarded adult females based on behavioral controls consisted oa: a) a manual for parents of retardates, b) colored tokens to represent food groups, c) monetary payments for weight loss, and d) daily weighings. Despite very limited intellectual capacities, Ss were able to develop new eating behaviors resulting in weight losses that were maintained at follow-up.

Gross, S. C. Behavioral engineering procedures in a self-feeding maintenance program for institutionalized severely mentally retarded children by higher functioning institutionalized maintenance tutors (Doctoral dissertation, New Mexico State University, 1975). Dissertation Abstracts International, 1975, 36, 2100A. (University Microfilms No. 75-21, 314)

Hymowitz, A. E. and Hymovitz, N. Operant conditioning of feeding in a blind profoundly retarded girl. Indian Journal of MR, 1974, 7(2), 58-64.

"Describes the successful use of behavior modification procedures to restore feeding behavior in a recently blind 11 year old profoundly retarded female. The patient was rewarded by being allowed to play a music box. Despite the girl's progress, she was withdrawn from the program after 14 days of treatment when her mother observed one of the nurses scolding and shaking her. The importance of staff cooperation is emphasized."

Mann, W. C. and Sobsey, R. Feeding program for the institutionalized mentally retarded. Occupational Therapy, 1975, 29(8), 471-474.

"Describes a behavior modification program geared to eliminate pathological eating patterns and create a more supportive environment in the dining room. Results showed that the noise level in the dining room dropped significantly, that food grabbing decreased, and that there was less food spillage reported."

Mercatoris, M., Hahn, L. G. and Craighead, W. E. Mentally retarded residents as paraprofessionals in modifying mealtime behavior. Journal of Abnormal Psychology, 1975, 84, 299-302.

"Investigated in 2 experiments the possibility of employing 2 mildly mentally retarded residents to observe the mealtime behaviors of lower level retardates. It was found that the residents could rate

Meyen, E. L. and Atlman, R. Public school programming for the severely/profoundly handicapped: Some researchable problems. Education and Training of the Mentally Retarded, 1976, 11, 40-45.

"Delineate two areas of needed research in reference to programming for the education of severely/profoundly retarded in public school settings. One area pertains to curriculum development and curriculum research and the other pertains to instructional problems related to curriculum implementation. An extensive list of researchable questions is presented."

Saunders, R. R. and Kopkik, K. A multi-purpose data sheet for recording and graphing in the classroom. American Association for the Education of Severely and Profoundly Handicapped Review, 1975, 1(1), 1-8.

"Presented and discussed a data collection system which they believed would simple the mechanics of data collection. This system has five essential characteristics. It could be used: 1) independently by a classroom teacher, 2) during training without significantly slowing or disrupting the teaching procedure, 3) to record performances of more than one pupil at a time, 4) in more than one or two areas of instruction, and 5) to reduce time spent in data consolidation and graphing."

SELF-HELP SKILLS (DRESSING)

Alt, C. and Bloschl, L. (Operant conditioning modification of severely retarded children through conditions of material reinforcement). Zeitschrift fuv Klinische Psychologie und Psychotherapie, 1972, 20(1), 33-42.

"Reports that operant conditioning procedures improved mastery in self-help skills (putting on and taking off jackets) in six 6-12 year old profoundly retarded children. Three Ss were reinforced by food and 3 received social reinforcement. Considerable learning success was made in both groups after 35 sessions. The social reinforcement group was slightly better than the material reinforced group."

Ford, L. T. Teaching dressing skills to a severely retarded child. American Journal of Occupational Therapy, 1975, 29(2), 87-92.

"Describes how an 8 year old retarded boy was taught to remove his shirt, via backward chaining procedure, in 16 training sessions."

SELF-HELP SKILLS (FEEDING)

Carson, P. and Morgan, S. B. Behavior modification of food aversion in a profoundly retarded female: A case study. Psychological Reports, 1974, 34(3), 954.

"Used operant conditioning techniques with a profoundly retarded 17 year old female with phenylketonuvia who was ingesting no food and had lost 50 pounds. Secondary reinforcer was used to re-establish a primary reinforcer and thereby shape and restore eating behavior. A 1 year follow-up revealed that S regained normal body weight and had no significant feeding problems."

mealtime behaviors reliably. The residents were then employed as reinforcing agents, to determine if a retarded 'trainer' could modify the observed mealtime behaviors within a multiple baseline design. Since an experimental was demonstrated on 4 of 5 target behaviors it was concluded such change agents could modify mealtime behavior of lower functioning residents."

Nelson, G. L., Cone, J. D. and Hanson, C. R. Training correct utensil use in retarded children: Modeling vs physical guidance. American Journal of Mental Deficiency, 1975, 80, 114-122.

"Compared modeling to physical guidance procedures used in teaching retarded (IQ = 25.3) knife, fork, and spoon use. Found that: 1) premeal training methods resulted in no improvement over baseline performance, 2) physical guidance procedures resulted in significant improvement while modeling procedures did not, and 3) physical guidance coupled with praise resulted in significant improvement in utensil use.

O'Brien, F., Dugle, C. and Azrin, N. Training and maintaining a retarded child's proper eating. Journal of Applied Behavior Analysis, 1972, 5, 67-72.

"A profoundly retarded 6 year old who ate food with her hands was trained by a manual guidance procedure to eat properly with a spoon, but the S still did not use the spoon after learning to do so. When a motivational-maintenance procedure was applied, the S did begin to eat properly. Results demonstrate that continued motivational procedures are needed after training to maintain the retardates continued use of proper eating skills."

Oshio, C., Tomiyasu, Y. and Komiya, M. Shaping appropriate eating behavior at a profoundly retarded boy. Japanese Journal of Special Education, 1974, 12(1), 1-9.

"A profoundly retarded 9 year old boy underwent 47 training sessions to shape appropriate eating behavior. After 5 baseline periods, his hand was manually guided by a trainer for 10 sessions. For the next 20 sessions, verbal punishment and time-out were delivered contingent upon finger feeding. For the last 12 sessions, time-out was used when he threw utensils or food and verbal praise was given after every 2 successful spoon feedings. The progress record indicated that both positive and negative reinforcements were effective in maintaining appropriate self-feeding. During the training, the S began to interact with others in nontraining situations."

Reynolds, E. V. The effects of videotaped modeling and small group training on the teaching of self-feeding skills to the severely and profoundly mentally retarded (Doctoral dissertation, University of Georgia, 1974). Dissertation Abstracts International, 1975, 35, 5132B. (University Microfilms No. 75-8200)

Song, A. Y. and Gandhi, R. An analysis of behavior during the acquisition and maintenance phases of self-spoon feeding skills of profound retardates. Mental Retardation, 1974, 12(1), 25-28.

"Describes several problems encountered during the course of teaching feeding skills to a group of 4 profoundly retarded children. The

primary technique used was a 7 step shaping technique with reinforcement and fading procedure. Factors such as maintenance of post training eating behavior, length of time taken to reach successive steps of training, choice of specific training procedure, use of physical restraints, readiness of the children and motivating variables for the trainers are discussed."

Surratt, P. R. An educative procedure for maintaining appropriate eating behavior of profoundly retarded adults (Doctoral dissertation, Southern Illinois University, 1971). Dissertation Abstracts International, 1972, 32, 5050A-5051A. (University Microfilms No. 72-10, 307)

Tomiyasu, Y., Oshio, C. and Komiya, M. A training of a profoundly retarded boy's mealtime behavior. Japenese Journal of Special Education, 1973, 10(3), 63-69.

"Describes the use of beh. mod. techniques in modifying a 10 year old profoundly retarded boy's inappropriate mealtime eating behaviors. After 99 sessions, target behaviors (e.g., upsetting food and throwing dishes) were reduced to near zero and some transfer to other social situations was observed."

Watson, C. M. The effects of feeding schedule alterations on behavior and weight in profoundly retarded humans (Doctoral dissertation, University of Texas at Austin, 1973). Dissertation Abstracts International, 1973, 34, 2426A. (University Microfilms No. 73-26, 105)

SELF-HELP SKILLS (GENERAL)

Brody, J. F. The itinerant training team: Variations on a familiar concept. Mental Retardation, 1975, 13(2), 38-42.

"Measures were taken of residents activity and performance of self-help skills on a ward housing severely and profoundly retarded adult males. Thirty residents were trained by psychology staff in specific self-help skills and residents in these programs improved significantly on situation specific assessment after training. Total Fairview Self-Help Scale scores also increased for almost every resident on the ward while general patterns of ward activity and interaction remained unchanged. It is concluded that direct training of residents in self-care is a 'professional duty' whenever residents need such training and as a safety valve against aide scarcity.

Colwell, C. N, Richards, E., McCarver, R. B. and Ellis, N. R. Evaluation of self-help habit training of the profoundly retarded. Mental Retardation, 1973, 11(3), 14-18.

"Measured behavior changes in 3 self-help areas (dressing, feeding and toileting) for 47 profoundly retarded 4-16 year olds admitted to a short-term residential facility in Louisiana. Checklist scales were developed to measure performance on each self-help area; items were arranged from simple to complex skills. Inter-rater reliability for the dressing, feeding and toileting scales was .99, .95, and .96 respectively. Results show an average institutional stay of 7.1 months, average MA gain of 3.36 months on the Cattell Infant Intelligence Scale and significant performance gains in each area."

Favell, J. E. and Favell, J. E. Experimental analysis of a self-help training program for severely retarded boys. Research and the Retarded, 1975, 2(1), 5-17.

"A positive reinforcement program was employed in an attempt to teach 30 severely and profoundly retarded boys to shower, wash their hands and face, brush their teeth, and to put on their shirts and pants. Teaching was conducted on a one to one basis by the regular cottage staff. Found that after 7 months the boys had learned an average of 1.6 skills each.

Wagner, P. and Sternlicht, M. Retarded persons as teachers: Retarded adolescents tutoring retarded children; self-maintenance skills. American Journal of Mental Deficiency, 1975, 79, 674-679.

"Female mentally retarded adolescents were trained to teach dressing and feeding skills to severe and profound retarded children. The female tutors taught the retarded children dressing and feeding skills in 18.5 and 20 hours, respectively.

SELF-HELP SKILLS (TEETH-BRUSHING)

Abramson, E. E. and Wunderlich, R. A. Dental hygiene training for retardates: An application of behavioral techniques. Mental Retardation, 1972, 10(3), 6-8.

"Aine severely retarded boys were trained to brush their teeth via operant techniques. A comparison of pre and post program performance yielded highly significant results except for 1 S."

Wehman, P. H. Effects of token reinforcement on maintaining oral hygiene skills in geriatric retarded women. Training School Bulletin, 1974, 71, 39-40.

"A token reinforcement 'star' program aimed at increasing the regularity of oral hygiene skills being performed was implemented in a cottage of moderate to severely retarded geriatric women. Results were generally successful with most residents taking more care in personal hygiene habits."

SELF-HELP SKILLS (TOILETING)

Azrin, N. H. On toilet training the severely and profoundly retarded. Journal of Research and Training, 1973, 1(1), 9-13.

"Describes in detail a toilet training procedure successfully carried out in 3 days on 10 profoundly retarded residents. The procedure, an application of learning theory to bladder control, involves the use of 2 specially designed apparati which allow the immediate detection of urination."

Edgar, C. L., Kohler, H. F. and Hardman, S. A new method of toilet training developmentally disabled children. Perceptual and Motor Skills, 1975, 41(1), 63-69.

"Trained 20 profoundly retarded 4-12 year olds, using a variety of relaxation and tension activities designed to help them differentiate and gain control of the toileting musculature. Operant techniques were used to reinforce appropriate urination. Post training scores of the experimental and control groups differed significantly for both accidental and appropriate urination."

Litrownik, A. J. A method for home training an incontinent child. Journal of Behavior Therapy and Experimental Psychiatry, 1974, 5(1), 77-80.

"Describes a home training method for incontinent children utilizing a signal apparatus. Effective toilet training was accomplished through simple conditioning procedures using an auditory signal apparatus in a profoundly retarded 7 year old male for whom traditional training methods had failed."

Osarchuk, M. Operant methods of toilet behavior training of the severely and profoundly retarded: A review. Journal of Special Education, 1973, 7, 423-437.

"Reviews literature dealing with operant methods of toilet behavior training and offers suggestions for future progress in this area."

Sloop, E. W. and Kennedy, W. A. Institutionalized retarded nocturnal enuvetics treated by a conditioning technique. American Journal of Mental Deficiency, 1973, 77, 717-721.

"The efficacy for institutionalized retarted nocturnal enuvetics of a conditioning treatment consisting of an electrical buzzer warning device set off by the act of urinating in bed was assessed using 21 experimental subjects matched with 21 control subjects on age, sex, IQ and number of wet nights over a 7 night baseline period. Eleven experimental subjects were conditioned successfully but follow-up ranging from 1.6 to 2.5 months indicated 4 of these 11 successes relapsed."

SELF-INJURIOUS BEHAVIOR

Duker, P. C. (Electroshock aversion therapy with two severely mental defective self-destructive females.) Gawein, 1972, 20(1), 45-52.

"Reports successful use of mild electroshock for the treatment of self mutilation. For prolonged suppression of these symptoms it is suggested that other forms of therapy, including changes in the environment, have to be considered."

Frankel, F. and Simmons, J. Q. Self-injurious behavior in schizophrenic and retarded children. American Journal of Mental Deficiency, 1976, 80, 512-522.

"Considered possible operant and respondent paradigms instrumental in the acquisition and maintenance of different types of self-injurious behavior (SIB). Supported these paradigms by reviewing literature dealing with both humans and primates. Reviewed treatment studies in terms of immediate outcome and long term outcome as a function of type of SIB displayed, type of intervention employed, and nature of positive reinforcement used."

Geiger, J. K., Sindberg, R. M. and Barnes, C. M. Head hitting in severely retarded children. American Journal of Nursing, 1974, 74(10), 1822-1825.

"Presents a nursing-care approach to head hitting behavior in severely retarded children. Interpretations about the source and nature of this symptom are made. Instead of the conventional approach of restraining the child, an alternative is suggested involving 3 general

principles: nuturant nursing care through rue fostering of warm, close relationships; interruption and prevention of destructive behavior; and reinforcement of more acceptable behaviors. Two case histories are detailed."

Hall, H., Thorne, E., Shinedling, M. and Sogers, P. S. Overcoming situation-specific problems associated with typical institutional attempts to suppress self-multilative behavior. Training School Bulletin, 1973, 70, 111-114.

"Describes an attempt to effectively reduce self-multilative behavior (head banging) in a profoundly retarded subject by means of aversive stimulation (electric shock). The case study is illustrative of how punishment - specific problems associated with the visibility of aversive stimulators can be overcome."

Lemke, H. and Mitchell, R. D. Controlling the behavior of a profoundly retarded child. American Journal Occupational Therapy, 1972, 26(5), 261-264.

"Describes the case of a 12 year old profoundly retarded, self abusive and assaultive child who did not feed himself, An operant conditioning program motivated the S to feed himself and to modify undesirable responses within 8 days. Training occurred during mealtimes using bites of food as a reinforcer."

Lucero, W. J., Frieman, J., Spoering, K. and Fehrenbacker, J. Comparison of three procedures in reducing self-injurious behavior. American Journal of Mental Deficiency, 1976, 80, 548-554.

"Studied the effects of three techniques employed to reduce the rate of self-injurious behavior displayed by three profoundly retarded females during mealtimes. Found that withdrawal of food and with drawal of food and attention resulted in a marked reduction of self-injurious behavior and withdrawal of attention resulted in increases in the rate of self-injurious behavior in two subjects and no change in the rate of such behavior in the third subject."

McFarlain, R. A., Andy, O. J., Scott, R. W. and Wheatley, M. L. Suppression of head banging on the ward. Psychological Reports, 1975, 36(1), 315-321.

"Effects of a leg shock and a conditioned aversive stimulus (loud no) on the self-injurious responses of a profoundly retarded male 25 year old patient were assessed. The no and shock produced a significant development in self injurious responding. The procedure was modified for use in the regular ward environment. The staff delivered the no contingent on self-injurious responding and occasional leg shocks. The procedure did significantly control the S's self-injurious responding but it was not possible to evaluate the long term effectiveness of the procedures."

O'Brien, D., Snipes, S. and Soule, D. Theories relating to the origin of self-injurious behavior. Research and the Retarded, 1974, 1, 15-26.

"Reviewed literature which attempted to explain self-injurious behavior in terms of effects of environment, psychoanalytical theorie, learning theories, and developmental theories."

O'Brien, D. V. The use of stimulation as an alternative treatment of self-injurious behavior in an institution for the retarded (Doctoral dissertation, North Carolina State University at Raleigh, 1975). Dissertation Abstracts International, 1975, 36, 2481B. (University Microfilms No. 75-17, 108)

Prochaska, J. Remote-control aversive stimulation in the treatment of head banging in a retarded child. Journal of Behavior Therapy and Experimental Psychiatry, 1974, 5(3-4) 285-289.

"Response-contingent shock has been demonstrated to reduce the rate of head-banging, but poor generalization has frequently resulted. The treatment of a 9 year old profoundly retarded, head-banging female demonstrated similar problems with generalization when stationary shock equipment was used, but remote-control apparatus was able to overcome generalization problems and reduce head-banging to zero."

Ragain, R. D. and Anson, J. E. The control of self-mutilating behavior with positive reinforcement. Mental Retardation, 1976, 14(3), 22-25.

"Reinforced a severely retarded institutionalized female on an adjusted DRO schedule until scratching and head-banging was reduced, extinguished this response, and then reconditioned it."

Tate, B. G. Case study: Control of chronic self-injurious behavior by conditioning procedures. Behavior Therapy, 1972, 3(1), 72-83.

"Describes an unusually severe case of chronic self-injury. The patient was an 18½ year old retarded girl who had been restrained in bed for 7¼ years. A variety of conditioning procedures were used and the behavior was brought under control during the first week of therapy. In succeeding weeks efforts were directed toward maintaining control and preparing the patient to live in the institution free of restraints."

Weiher, R. G. and Harman, R. E. The use of omission training to reduce self-injurious behavior in a retarded child. Behavior Therapy, 1975, 6(2), 261-262.

"Used omission training (OM), a response elimination technique which specifies reinforcemtne for the non-occurrence of a designated response, to treat a 14 year old severely retarded boy with a long-standing self-injurious behavior of head banging. Fifty OM sessions reduced self-injurious responding to a near zero rate and facilitated the emergence of new, more appropriate social behaviors. None of the undesirable side affects previously reported with aversive conditioning resulted from the OM procedure."

Young, J. A. and Wineze, J. P. The effects of the reinforcement of compatible and incompatible alternative behaviors on the self-injurious and related behaviors of a profoundly retarded female adult. Behavior Therapy, 1974, 5, 614-623.

"Used a multiple-baseline within -S design with a 21 year old retarded girl in which the reinforcement of a physically compatible target behavior resulted in a systematic increase in this behavior but no decrease in self-injurious behaviors. The reinforcement of a physical incompatible behavior also resulted in its increase over baseline level. Under this condition, one class of self-injurious behavior

increased in frequency while another class decreased. Data indicate that the mere presence of any particular alternative behavior that is effective in obtainingrreinforcement is not sufficient in itself to reduce self-injurious behavior. During a final phase of this study response contingent shock was introduced. This procedure was effective in suppressing the class of self-injurious behavior to which it was applied. Self-injurious behavior which was not punished continued at baseline level."

SOCIALIZATION (A-Z)

Altman, R., Cleland, C. C. and Swartz, J. D. Social responsivity in the profoundly mentally retarded. Perceptual Motor Skills, 1972, 34(1), 101-102.

"Elicited a handshake from 20 of 26 profoundly mentally retarded adult males. This result challenges the prevailing pessimistic view of the social sensitivity of profoundly retarded persons. Possible corrective training practices are discussed."

Bradtke, L. M., Kirkpatrick, W. J. and Rosenblatt, K. P. Intensive play: A technique for building affective behaviors in profoundly mentally retarded young children. Education and Training of the Mentally Retarded, 1972, 7, 8-13.

"Intensive play is the building through close body contact and physical stimulation, of positive responses to normally pleasurable experiences. Intensive play was developed to break through the barriers of unawareness, tearfulness, and unresponsiveness and is used for building affective behavior."

Cleland, C. C., Hereford, S., Fellner, M. and Lawrence, W. Parental behaviors in profoundly retarded subjects. Perceptual Motor Skills, 1973, 36(1), 215-218.

"Observed the behavior of 13 male and 16 female profoundly retarded 18-30 year old adults in response to the visual stimulus of a human infant. Little support was obtained for the ethologically based hypothesis that the infant as a sign stimulus would release parental (i. e. approach) behavior. However, significantly more active approach behavior was observed in female than male Ss."

Guralnick, M. J. and Kravik, M. A. Reinforcement procedures and social behaviors in a group context with severely retarded children. Psychological Reports, 1973, 32(1), 295-301.

"Operant reinforcement procedures were employed by a teacher and a teacher's aide in the classroom to develop simple but sustained social behaviors in 8 severely retarded 6-10 year olds. Reinforcement procedures were successfully applied in class, providing an effective and economical means for developing social behavior. Edible reinforcement was most effective but the behavior did not generalize."

Halliday, G. W. and Evans, J. H. Somato sensory enrichment of deaf, blind, retarded adolescent through vibration. Perceptual Motor Skills, 1974, 38(3), 880.

"Examined the effect of vibration to the hand on smiling behavior of a blind, deaf, profoundly retarded adolescent girl. Results show

significant differences between observation and experimental periods for the duration of smiling behavior.

Harris, J. M., Veit, S. W., Allen, G. T. and Chinsky, J. M. Aide-resident ratio and ward population density as mediators of social interaction. American Journal of Mental Deficiency, 1974, 79, 320-326.

"Observed several types of interpersonal interaction between institutionalized retarded children and their attendants. When the ward population decreased and only one aide was present, there was a significant increase in the frequency of desirable types of aid behavior."

Hurzem, P. and Damon, S. G. Social interactions of a group of severely retarded people with staff and peers in a ward setting. Psychological Reports, 1975, 36(3), 959-966.

"In a small hospital, the social interactions of 12 adults and 1 12 year old severely retarded persons were observed with staff and with each other. There were marked individual differences in susceptibility to social interaction. The frequency of peer interactions were very low. In terms of interaction with the staff, Ss could be grouped as high, moderate and low scorers. Aversive behavior was emitted spontaneously by some high scorers, thereby achieving interaction from staff, and by the low scorers in response to approaches from staff, thereby decreasing the likelihood of such attempts at interaction."

Jackson, E. D. and Jackson, R. L. Distribution of rewards by mentally retarded individuals in a cost and no-cost situation. American Journal of Mental Deficiency, 1974, 79, 77-82.

"Found that severely mentally retarded adults divided rewards in proportion to each members work input whether they divided the rewards between themselves and a fictitious partner (cost situation) or between two absent individuals (no-cost situation).

Jacobson, L. I., Bernal, G. and Greeson, L. Effects of programmed social interaction on the measured intelligence of institutionalized moderately and severely retarded children. Journal of Mental Deficiency Research, 1974, 18, 87-91.

"The effect of socio-motivational factors on performance on an intelligence test was evaluated. Eighteen of twenty-seven moderately and severely retarded children were assigned to a ten or twenty hour social interaction condition in which experimentally controlled interactions between experimenters and subjects occurred. The Stanford-Binet was administered to subjects before and after participation. Nine subjects assigned to a no treatment control condition were given the Stanford-Binet twice, with one month between administrations. Small but significant increases in IQ were found for subjects in the experimental conditions, but not in the control condition. Initial degree of retardation was unrelated to IQ change."

McDonald, T. F. Effects of behavior shaping on the development of cooperative behavior between pairs of severely and profoundly retarded individuals (Doctoral dissertation, United States International University, 1973). Dissertation Abstracts International, 1973, 34, 1755B. (University Microfilms No. 73-22, 679)

Morris, R. J. and Dolker, M. Developing cooperative play in socially withdrawn retarded children. Mental Retardation, 1974, 12(6), 24-27.

"Compared 3 approaches (high-low dyad, low-low dyad and experimenter-low shaping) to the development of cooperative play in 6 severely retarded 4-12 year olds. Results show that pairing a high and low interacting child and the shaping procedure produced the greatest amount of cooperative play. No appreciable increase in cooperation was found by pairing 2 low interaction children or in the no-treatment condition. These results were maintained at the 3 week follow-up evaluation."

Naor, E. M. and Balthazar, E. E. The effects of a self-help training programe upon social coping behaviors. British Journal of Mental Subnormality, 1974, 20(39), 69-77.

"Conducted a study with 43 male institutionalized mental retardates to determine the extent to which specific social behaviors would be affected by supplementary activiries and external stimulation provided in conjunction with a general training program in self-help skills. A training program in functional independence was developed and evaluated using the Balthazar Scales of Adaptive Behavior, Section I (BSAB-I) and the Scales of Functional Independence. Following 1 year of training, the effects of the training program on the Ss were measured using an earlier version of the BSAB-II: The Scales of Social Adaptation. Results indicate that general external stimulation and a supplementary activity program, in conjunction with individualized programs for improvement of self-help skills, did affect the social behaviors of males 21 years old and under. Further it is likely that the lack of social responses in these Ss was due not only to the effects of mental retardation alone, but to lack of training and social deprivation as well.

Samaras, M. S. and Ball, T. S. Reinforcement of cooperation between profoundly retarded adults. American Journal of Mental Deficiency, 1975, 80, 63-71.

"Seven pairs of profoundly retarded individuals learned to work together in order to receive reinforcers (M & M's). Each member of a pair was required to press a button on a cooperation machine, and when the two buttons were simultaneously pressed for 3 seconds or more reinforcers were dispensed.

Sinson, J. C. Assessment and social education of severely subnormal children in a preschool unit. British Journal of Mental Subnormality, 1973, 19(36), 21-32.

"Describes the goals, services, facilities, personnel and activities of a typical day in a school for severely retarded children over 2½ years of age. School centered around idea these children can learn social skills if appropriate stimulation and opportunities are provided. Emphasis is placed on normal activities. A program in which children were given a small sum of money and allowed to go shopping is described. Assessment procedures used in the school are outlined and case histories presented."

Stokes, T. F., Baer, D. M. and Jackson, R. L. Programming the generalization of a greeting response in four retarded children. Journal of Applied Behavior Analysis, 1974, 7, 599-610.

"Reinforcement techniques of prompting and shaping were employed to develop handwaving, a useful social greeting response, in four institutionalized retarded subjects. However, this behavior did not generalize to other staff members in the institution until a 2nd experimenter trained and maintained the response in conjunction with the first experimenter."

Strain, P. Increasing social play of severely retarded preschoolers with sociodramatic activities. Mental Retardation, 1975, 13(6), 7-9.

"Conducted a study to determine whether sociodramatic activities would function to increase the social play of severely retarded preschool children during a free play period. Ss were 8 severely retarded 48-52 month olds with a mean IQ of 37. Social play was observed across baseline and intervention conditions in an ABAB design. Results suggest that the opportunity to engage in sociodramatic activities and increased social play are functionally related."

Veit, S. W., Allen, G. J. and Chinsky, J. M. Interpersonal interactions between institutionalized retarded children and their attendants. American Journal of Mental Deficiency, 1976, 80, 535-542.

"Devised an observational method to analyze behavioral and situational components of aide-resident interpersonal interactions in an institutional ward for retarded children. Through this method mode of communication, interpersonal affect, response to an initiator of an encounter, context in which interaction occurred, and mand/tact dimensions were measured. Observed a ward over a 7 week period and found that child-care and ward-management activities occurred on a consistent basis and that aides initiated most of the interactins."

Williams, L. Effects of a backscratch contingency of reinforcement for table serving on social interaction with severely retarded girls. Behavior Therapy, 1975, 6(2), 220-229.

"Social interaction within 2 dyads of severely retarded 19-23 year old girls was observed under conditions of no reinforcement, individual token and social reinforcement, and a backscratch contingency of token and social reinforcement for table serving. Each pair was also observed in general ward settings to assess generality of the effects. Findings indicate that social interaction increased between members of 1 pair under the backscratch condition and decreased under reversal conditions to individual reinforcement with generalization to another ward setting. Similar but less dramatic effects were observed with the 2nd dyad. Interactions of yelling and hitting remained at zero level throughout."

Wright, E. C., Abbas, K. A. and Meredith, C. A study of the interactions between nursing staff and profoundly mentally retarded children. British Journal of Mental Subnormality, 1974, 20, 14-17.

"Observed 16, 9-18 year old ambulant children in 5 hospital wards for interactions promoting positive, negative, or neutral patient behavior. An extreme poverty of interpersonal exchange between Ss and staff was noted and a lack of Ss' attempts to relate to staff. Findings shows

a need to: a) revise training for nurses caring for mentally retarded children, and b) consider other types of staff training, other forms of long-term care and the need for larger staffs."

Zachotsky, T., Reardon, D. and O'Connor, G. Response of institutionalized retarded adults to social pressure in small groups. American Journal of Mental Deficiency, 1974, 79, 10-15.

"Studied responses to group pressure as related to sex, IQ and presence of an authority figure. Group members were asked to report on positions colors occupied. Found subjects with lower IQ's yielded more often to group pressure."

STEREOTYPIC BEHAVIOR

Azrin, N. H., Kaplan, S. J. and Foxx, R. M. Autism reversal: Eliminating stereotyped self-stimulation of retarded individuals. American Journal of Mental Deficiency, 1973, 78, 241-248.

"Reinforced 9 severely and profoundly retarded adults, who engaged in stereotypic behavior, for displaying outward-directed behavior. This reinforcement program reduced the rate of stereotypic responding by about two-thirds. When the reinforcement program was combined with an overcorrection procedure the rate of self stimulatory behaviors was reduced by 95% after a 2 day period."

Flavell, J. E. Reduction of stereotypics by reinforcement of toy play. Mental Retardation, 1973, 11(4), 21-23.

"Recorded the stereotypies and toy play of 3 severely retarded children. Prompting and positive reinforcement of toy play markedly increased toy play responses and decreased stereotypies to zero level."

Foxx, R. M. and Axrin, N. H. The elimination of self-stimulatory behavior of autistic and retarded children by overcorrection. Proceedings of the Annual Convention of the American Psychological Association, 1972, 7(Pt. 2), 761-762.

"Overcorrection procedures were applied to autistic and retarded children who exhibited high rates of self-stimulation. These procedures eliminated all the Ss self-stimulation and were more effective than several alternative inhibitory procedures."

Hollis, J. H. "Superstition": The effects of independent and contingent events on operant responses in retarded children. American Journal of Mental Deficiency, 1973, 77, 585-596.

"In a free-field situation, following free operant baselines on stereotyped movements (hand-wringing and head rolling), the response-independent delivery of food was scheduled. The effects of response-independent schedules were studied following variable-interval, fixed-ratio, and extinction baselines for stereotyped (body-rocking) and manipulanda (ball and leg) responding. The results showed that a reinforcer delivered independently of behavior: a) accelerated baseline response rates for dominant free operant behavior, b) decelerated response rates following VI and FI schedules; and c) that a stimulus may acquire multiple functions with respect to a reinforcing event."

Lambert, J. J., Bruwier, D. and Cobben, A. (The reduction of a stereotyped behavior of a seriously retarded child: A comparison of five methods.) Psychologie: Schweizerische Zeitschrift fur Psychologie und thre Anwendungen, 1975, 34(1), 1-18.

"Presents the case study of a severely mentally retarded 13 year old child who was exhibiting undesirable stereotyped gestures. Five behavioral methods were used in succession to eliminate the gestures: manipulation of objects, physical contact, aversive conditioning, reinforcement of other behavior, and overcorrection. The latter proved least effective. Manipulation of objects and physical contact were most effective."

McKinney, F. B. An experimental attempt to reduce stereotyped rocking in retarded children through the reinforcement of alternative behaviors (Doctoral dissertation, Florida State University, 1973). Dissertation Abstracts International, 1973, 33, 3315B. (University Microfilms No. 73-197)

Mavis, R. S. Stereotyped body-rocking in profoundly retarded patients: A study of rhythm and topography (Doctoral dissertation, University of Alabama, 1970). Dissertation Abstracts International, 1973, 33, 3114B. (University Microfilms No. 72-33, 115)

Repp, A. C., Deitz, S. M. and Speir, N. C. Reducing stereotypic responding of retarded persons by the differential reinforcement of other behavior. American Journal of Mental Deficiency, 1974, 79, 279-284.

"Stereotypic responding of three severely retarded individuals was reduced by reinforcing these individuals after specified time periods had elapsed during which they displayed no stereotypic responding. Responses whose frequency decreased included: hand motions, lap flapping, and rocking.

Rollings, J. P. The establishment of exteroceptive stimulus control of stereotypic responding exhibited by two profoundly retarded males (Doctoral dissertation, University of Alabama, 1975). Dissertation Abstracts International, 1976, 36, 6420B. (University Microfilms No. 76-13, 933)

Smeets, P. M. The effects of various sounds and noise levels on stereotyped rocking of blind retardates. Training School Bulletin, 1972, 68, 221-226.

"The effects of noise level, type, and duration of auditory stimuli on the rate of stereotyped rocking of blind, institutionalized retardates were investigated. It appeared that stereotyped rocking was subject only to experimental manipulation of noise."

VISION (ASSESSMENT, DISCRIMINATION)

Evans, P. L. and Hogg, J. H. Individual differences in the severely retarded child in acquisition, stimulus generalization and extinction in go-no-go discrimination learning. Journal of Experimental Child Psychology, 1975, 20, 372-390.

"Individual differences in 27 institutionalized and non-institutionalized severely retarded children (mean verbal age, 4.5 years) as measured by a questionnaire were related to dependent variables measured in a discrete trial successive go-no-go intradimensional discrimination

learning study, followed by stimulus generalization tests on a hue continuum and extinction trials. Significant correlations were found between the number of intersignal responses in learning, responding to and around the nonreinforced stimulus (S-), types of errors in extinction, and the S's position on an excitation-inhibition dimension based on clinical descriptions of the behavior of the retarded given by A. R. Luvia (1963)."

Friedlander, B. Z. and Knight, M. S. Brightness sensitivity and preference in deaf-blind retarded children. American Journal of Mental Deficiency, 1973, 78, 323-330.

"Assessed light sensitivity in 16 deaf-blind, preschool, postrubella children via an operant procedure which allowed the children to select preferred illumination feedback as reinforcement for operating a two-choice lever switch. Purpose of this procedure was to develop a way to assess limits of the child's vision on order to construct educational plans which could make maximum use of the child's residual vision.

Garcia, R. Perception of depth in the profoundly retarded. Bulletin of the Psychonomic Society, 1974, 4(3), 185-187.

"Eighteen 29-54 year old profoundly mentally retarded male Ss, having a mean social age of 1.65 and a mean social quotient of 6.63, were tested for depth perception on the 'visual cliff'. Thirty nine per cent of those tested clearly perceived this illusion of depth. The theoretical and practical implications of this experiment, and further experiments to be carried out in the future are discussed.

Hays, V. L. An automated procedure for measurement of far-point visual acuity in mentally retarded and normal children (Doctoral dissertation, Arizona State University, 1974). Dissertation Abstracts International, 1974, 34, 6239B-6240B. (University Microfilms No. 74-13, 279)

Hogg, J. and Mahler, I. Transfer to operantly conditioned visual fixation in hyperactive severely retarded children. American Journal of Mental Deficiency, 1974, 79, 305-310.

"Once 10 hyperactive severely retarded children were trained to visually fixate on known objects of preference they were given a series of transfer tests: a) a distracting testroom, b) neutral stimuli, c) experimenter replacement, d) simple play task, e) sequin formboards, f) bead manipulation, and g) classroom tasks. Most subjects showed consistent improvement on the majority of tests for frequency and duration of visual fixation."

Irvin, L. K. Stimulus factors in teaching difficult visual discriminations to severely retarded persons: Utility and relative efficacy of attention-engineering strategies in applied settings (Doctoral dissertation, University of Oregon, 1975). Dissertation Abstracts International, 1976, 36, 4354A. (University Microfilms No. 76-935)

Lowry, P. W. and Ross, L. E. Severely retarded children as impulsive responders: Improved performance with response delay. American Journal of Mental Deficiency, 1975, 89, 133-138.

"Four severely retarded children, who had previously demonstrated fast incorrect (impulsive) responding, were trained in color discrimination under two conditions. In condition one they could make a response immediately and in condition two they had to wait 5 seconds before responding to the stimuli. Performance of the subjects under the no-delay condition was at a chance level whereas under the delay condition color discriminations were being correctly made at an 80%-90% level."

Maier, I. and Hogg, J. Operant conditioning of sustained visual fixation in hyperactive severely retarded children. American Journal of Mental Deficiency, 1974, 79, 297-304.

"Reinforced 10 hyperactive severely retarded children both socially and with edibles contingent upon their visually fixating on objects. Found both frequency and duration of visual fixations increased under reinforcement conditions.

Ohwaki, S., Brahlek, J. A. and Stayton, S. E. Preference for vibratory and visual stimulation in mentally retarded children. American Journal of Mental Deficiency, 1973, 77, 733-736.

"Relative preference for a vibratory and a visual stimulus was investigated in 30 mentally retarded children. Found a significantly greater vibratory preference in the low-MA group (severe and profound) than in the middle and high MA groups."

Patterson, E. T. Hypotheses, strategies, and stereotypes in discrimination learning with the mentally retarded (Doctoral dissertation, Texas Tech University, 1975). Dissertation Abstracts International, 1975, 36, 3096B. (University Microfilms No. 75-26, 853)

Ponder, H. A. Effects of mother-surrogate nuturance upon pupillary responses and looking times of institutionalized moderately and severely retarded adults (Doctoral dissertation, University of Texas at Austin, 1970). Dissertation Abstracts International, 1972, 32, 3826A. (University Microfilms No. 72-2402)

Rynders, J. E. and Friedlander, B. Z. Preference in institutionalized severely retarded children for selected visual stimulus material presented as operant reinforcement. American Journal of Mental Deficiency, 1972, 76, 568-573.

"Thirty severely and profoundly retarded children were presented with all paired combinations and permutations of three stimulus materials (a color motion picture of attendant-child caretaking interaction, black and white slides of some interaction, black and white slides out-of-focus) via an automated learning device. Results revealed a significant and consistent preference for the color motion picture material."

Schroeder, S. Visual-motor performance and receptive language learning in a visually impaired profoundly retarded boy. Research and the Retarded, 1976, 3(1), 1-8.

"Conducted two experiments with a profoundly retarded boy who evidenced severe strabismus and nystagmus. In the first experiment vocal responses, object identification, and discrimination of objects were

shaped and fixation training was done to correct as much as possible the eye conditions. Found that fixation training increased the subject's discrimination from 1 to 15 objects. The second experiment evaluated the use of eye movement parameters to differentially process information. Found that fixation frequency error rate were correlated; fixation frequency decreased with correct choices."

Silva, D. A., Knight, M. S. and Friedlander, B. Z. Visual tracking in deaf-blind retarded preschool children. Exceptional Children, 1973, 39. 574-575.

"Measured severely retarded deaf-blind children's performance in tracking a shifting light source by means of changes in head orientation. Found more than three times as many head turns were made during test periods as during baseline periods, and 13 out of 14 subjects evidenced significantly more head turns during test as opposed to baseline periods. Results clearly established gross visual tracking capabilities in these deaf-blind postrubella children."

Sinson, T. and Wetherick, N. E. Short-term retention of color and shape information in mongol and other severely subnormal children. Journal of Mental Deficiency Research, 1973, 17(3-4), 177-182.

"Tested 2 groups of severely subnormal children (46 mongols and 41 non-mongols) for short term retention of color and shape information using colors of equal brightness. Both groups could do a simultaneous match on the basis of the color or shape, but the mongol group made many errors in successively matching colors and in pointing to named colors. They experienced no difficulty in successively matching and naming shapes and the non-mongol group had little difficulty with either color or shape."

VOCATIONAL

Bellamy, G. T., Peterson, L. and Close, D. Habilitation of the severely and profoundly retarded: Illustrations of competence. Education and Training of the Mentally Retarded, 1975, 10, 174-186.

"Severely and profoundly retarded adults appear able to benefit from significantly more vocational opportunities than are typically provided. Examples of work tasks currently performed by this group were presented in order to emphasize their vocational abilities and successful training and supervision procedures are illustrated."

Bellamy, G. T. Descriptive study of the covariation between setting events and productivity in a subcontract shop for the severely retarded (Doctoral dissertation, University of Oregon, 1975). Dissertation Abstracts International, 1976, 36, 5985A-5986A. (University Microfilms No. 76-5143.)

Bender, M. An experiment using a visual method of instruction followed by imitation to teach selected industrial education psychomotor tasks to severely mentally retarded males (Doctoral dissertation, University of Maryland, 1971). Dissertation Abstracts International, 1972, 32, 5004A-5005A. (University Microfilms No. 72-10, 063)

Benton, R. B., Permenter, N. A., Baylor, J. and McLelland, P. Evaluating the work potential of blind multiply handicapped persons for the manufacture of bath perfume. New Outlook for the Blind, 1974, 68, 70-74.

> "In order to evaluate the work potential of blind, severely retarded, multiply handicapped persons, a model project involving the manufacture of bath perfume was established within an already existing program. Fifteen clients attempted to master 1 or more of the 5 work station tasks (bottle, fill,cap, label and box). There were 48 successes in 58 attempts, for an 83% success rate. Of these successes 75% were accomplished in only 1 2 hour working day."

Gold, M. W. Stimulus factors in skill training of retarded adolescents on a complex assembly task: Acquisition, transfer and retention. American Journal of Mental Deficiency, 1972, 76, 517-526.

> "Sixty four moderately and severely retarded individuals enrolled in 4 sheltered workshops learned to assemble a 15 piece bicycle brake and were then tested for transfer to a 24 piece bicycle brake. Fifty three of the subjects were retested on both tasks after 1 year. One half of the subjects worked with parts of the training task as they came from the factory while the other half of the subjects worked with color-coded parts. All groups worked with the 24 piece brake as it came from the factory. Half the subjects learned the tasks to a criterion of 6 correct out of 8 consecutive trials, the other half performed 20 trials beyond criterion. The Color-Form Groups learned significantly faster than the Form-only groups. Overlearning did not affect transfer. The one year retention study yielded significant retention effects."

Gold, M. W. and Barclity, C. R. The learning of difficult visual discriminations by by the moderately and severely retarded. Mental Retardation, 1973, 11(2), 9-11.

> "Designed an efficient and effective procedure for training moderately and severely retarded individuals to make fine visual discriminations. A rest of the model was conducted with 16 adolescent and adult retardates. Results suggest that expectancies for such individuals are in of examination. Implications for sheltered workshops, work activity centers, and classrooms are discussed."

Johnson, V. M. Develcpment of an imitative repertoire for teaching manipulative skills to severe retardates (Doctoral dissertations, University of Tennessee, 1972). Dissertation Abstracts International, 1972, 33, 2171A. (University Microfilms No. 72-27, 476)

Karen, R. L., Eisner, M. and Endres, R. W. Behavior modification in a sheltered workshop for severely retarded students. American Journal of Mental Deficiency, 1974, 79, 338-347.

> "Studied effects of a token economy on the work behavior of ten severely retarded adolescents. Measured rate of production, number of errors made during production, and visual inattendance to tasks during a baseline, a training, and a follow-up period. Subjects worked on five 'nursery-can' tasks (box delivery, stripping, washing, punching and boxing). Results indicated: 1) Tasks

varied in difficulty, 2) a decrease in average error and an increase in average production with tokens, and 3) a decrease in average visual inattendance irrespective of tokens."

Merwin, M. R. The effects of pretraining upon the training and transfer of circuit board assembly skills of retarded adults (Doctoral dissertation, University of Illinois at Urbana-Champaign, 1974). Dissertation Abstracts International, 1975, 35, 6136B-6137B. (University Microfilms No. 75-11, 321)

Pomerantz, D. J. Manual skill training of retarded children. American Association for the Education of Severely and Profoundly Handicapped Review, 1975, 1(1), 1-12.

"This paper describes a series of studies which is still in an early stage of development. The purpose of the research is to adapt training procedures previously used with moderately and severely retarded adolescents and adults (Gold, 1972) for use with trainable children. The studies are conceived as an initial step toward experimental investigation of issues associated with prevocational skill training."

Trybus, R. J. and Lacks, P. B. Modification of vocational behavior in a community agency for mentally retarded adolescents. Rehabilitation Literature, 1972, 33(9), 258-266.

"Applied operant techniques to 19 noninstitutionalized, moderately severely retarded adolescents who multiple behavioral problems and very low levels of productivity precluded them from working in sheltered workshops. While these procedures (token reinforcement, cueing, and punishment) were generally successful in raising production and eliminating or reducing work interferring behaviors, it was found that these operant methods had to be continued in order to maintain the improvements noted."

Walls, R. T., Tseng, M. S. and Zarin, H. N. Time and money for vocational rehabilitation of clients with mild, moderate, and severe mental retardation. American Journal of Mental Deficiency, 1976, 80, 595-601.

"Studied a national sample of 600 vocational rehabilitation clients, one-half of whom had been rehabilitated and one-half of whom had not been rehabilitated. This sample was composed of mildly, moderately, and severely retarded individuals who were evaluated in terms of time in referral, training, and rehab. process; dollars in evaluation, facilities, all seriices, and earnings. Found that severely retarded clients spent more in training, rehabilitation facilities, and all services than mildly or moderately groups of citizens."

VOMITING

Azrin, N. H. and Wesolowski, M. D. Eliminating habitual vomiting in a retarded adult by positive practice and self-correction. Journal of Behavior Therapy and Experimental Psychiatry, 1975, 6(2), 145-148.

"A combination of self-correction and practice in the correct manner of handling the urge to vomit entirely eliminated the nonmedically vomiting, of many years standing of a profoundly retarded 36 year old female inpatient."

Ball, T. S., Hendricksen, H. and Clayton, J. Special feeding technique for chronic regurgitation. American Journal of Mental Deficiency, 1974, 78, 486-493.

"Rates of voluntary regurgitation displayed by two profoundly retarded institutionalized children were compared for a standard institutional feeding method vs a special feeding method. Both individuals exhibited a marked reduction in their rates of regurgitation when they actively participated in the feeding process (special feeding method).

Jackson, G. M., Johnson, C. R. and Ackron, G. S. Food satiation as a procedure to decelerate vomiting. American Journal of Mental Deficiency, 1975, 80, 223-227.

"Used a food satiation procedure to decrease the frequency of vomiting responses exhibited by two profoundly adults. Satiation was defined as that point at which subjects refused to consume any more food during regularly scheduled mealtimes. Results revealed that: 1) subject one's vomiting was reduced by 94%, and 2) subject two's vomiting was reduced by 50%."

Smith, D. W. and Lyon, R. Eliminating vomiting behavior in a profoundly retarded resident. Research and the Retarded, 1976, 3(1), 24-27.

"Control of vomiting behavior in a profoundly retarded, female resident was accomplished by ignoring vomiting behavior and reinforcing other behavior. It was indicated that contingent attention had maintained the vomiting behavior prior to the intervention program."

Watkins, J. T. Treatment of chronic vomiting and extreme emaciation by an aversive stimulus: Case study. Psychological Reports, 1972, 31(3), 803-805.

"Administered electric shock to a 14 year old severely retarded male who weighed only 45 pounds and whose survival was in question. S was shocked over a 7 week period whenever he attempted to vomit. The vomiting response was practically eliminated and remarkable weight gain occurred during the treatment phase and a 3 month follow-up period."